

ITEMS OF INTEREST.

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Notes from the Profession.

Peroxide of Hydrogen in Diseases Caused by Germs.

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CATARRH OF THE NOSE AND OF THE THROAT.

CAUSES—Micro-organisms, principally of the micrococcus species, have been detected by microscopical examinations, by scientific men, and by myself, in the mucus discharges from the nostrils of persons afflicted with this disease. Those germs which are the cause of the infection are readily destroyed by peroxide of hydrogen, and there is no danger for the patient to use this remedy in any quantity, as it is positively harmless.

TREATMENT.—By means of an atomizer, made of glass and hard rubber, spray the nose and the throat copiously and repeatedly twice or three times every day with a mixture of 1 tablespoonful Marchand's peroxide of hydrogen (medicinal), with 4 to 10 tablespoonfuls of water, according to the degree of inflammation in the mucous membranes of the nasal cavities; and, in case of extreme sensitiveness, use even a still larger portion of water.

NOTE.—In the absence of an atomizer, apply the remedy to the nose by sniffing the liquid from the hand through the nostrils repeatedly, and gargle the throat. It is always beneficial to swallow some of the remedy.

Do not blow the nose too hard, as it might cause a temporary bleeding.

In chronic cases of long standing, especially at the beginning of the treatment, when the tenderness of the mucous membrane is excessive, it often happens that the patient will feel, during one hour or so after each application of the remedy, a partial obstruction of one of the nostrils.

This very unpleasant feeling is often accompanied by frequent sneezing, which is due to the tickling sensation produced in the nasal cavities by the presence of a great quantity of minute bubbles of "ozone," being set free from the decomposition of the peroxide of hydrogen coming in contact with the infected surface. The unhealthy secretions are destroyed by "ozone," and the cleansing of the nostrils is made perfect.

In chronic cases, when the middle ear is affected, deafness is often the consequence. Then ozonized vapor inhalations should follow the spraying of the nose and the throat, by Marchand's hand atomizer and tonizer, with a mixture of equal parts of peroxide of hydrogen and glycerin.

Renew this mixture every three days. It is important that the above mixture should be made perfect by shaking the bottle well, otherwise the spray-tube of the apparatus might be clogged on account of the syrupy nature of the glycerin.*

* When chronic catarrh of the nose is very tenacious and painful, it is necessary at night, before retiring, to apply a few drops of glycozone to the nostrils. Sniff it hard, as it will accelerate the cure.

In many cases the incurability of chronic catarrh of the nose is due to partial or complete obstruction of the nasal cavities, caused by some abnormal conditions of growth, differing in their nature.

When such is the case, apply this peroxide of hydrogen, as heretofore explained, morning and evening, and after ten or fifteen days, if the excrescence does not disappear, it will be necessary to have a surgical operation performed for its removal. [Tannic acid in water snuffed up the nose three times a day for two or three days will constrict the growth and generally cause it to sluff away, to be blown from the nose.—ED. ITEMS.]

A permanent cure may then be effected in a short time.

After the excrescence has been removed or destroyed by means of the thermo-cautery, or any other operation (*no caustic should be used, as it will most likely destroy both taste and smell*), an absolute cure is certain if the Marchand peroxide of hydrogen treatment is earnestly followed.

In ozena, one part peroxide of hydrogen should be applied three times daily, diluted with 4 to 7 tablespoonfuls of water.

It is only in case of extreme tenderness of the mucous membrane that a weaker solution should be used, as follows: Mix one tablespoonful peroxide of hydrogen with 7 to 10 tablespoonfuls of water.

Spray the nostrils and then the throat successively and copiously with this diluted peroxide of hydrogen, or, in the absence of an atomizer, apply the remedy to the nose by sniffing the liquid from the hand through the nostrils repeatedly, and gargle the throat.

This treatment is so powerful that the destruction of the microbial element takes place immediately, and the putridity which characterizes this peculiar and repulsive affection is arrested three or four days after the beginning of its application.

The cure is ordinarily accomplished in four weeks, but in some instances, when long standing—having become chronic—it requires a longer time to effect a cure.

The microscopical examination of the unhealthy mucous secretions and excretions from the nostrils of hay-fever sufferers demonstrate the presence of small ovoid micro-organisms, which are annihilated instantly when brought into contact with peroxide of hydrogen.

It is worthy of notice that the degree of susceptibility to the infectious action of these germs or microbes differs with different people. The spores and germs which cause this disease do not always find a proper medium for development in the mucus secretions of different people.

The peculiarity of this disease is that any one who is afflicted with hay-fever can foretell every year, almost to a certainty, the day on which the disease will begin, and also the day on which they will get rid of it.

The logical explanation of this is that the conditions of life of afflicted people are always the same; that is, "the circumstances and surrounding of their existence are absolutely alike from year to year." Thus the microbial causes of the trouble develop under the same influences every year, at about the same time; and, consequently, the disease begins when the atmospheric conditions become favorable for the development of the spores. These spores grow, under favorable conditions of temperature and dampness, in the mucous secretions of the nostrils, the microbial affection takes place, and inflammation and ulceration of the mucous membrane is the consequence.

These micro-organisms continue their growth as long as these favorable atmospheric conditions exist, and they disappear as soon as the temperature falls and while it remains at a lower degree. Then the effects disappear with their causes, and the patient gets rid of his trouble.

TREATMENT.—The causes of hay-fever being now well established, it is easy to understand that any remedy having the property to destroy microbes or germs will surely prevent or cure the disease by removing the cause, providing this antiseptic remedy will have no injurious effects on the surrounding healthy tissues.

In hay-fever, the remedy should be applied locally to the nostrils as a spray, and also by inhalations, to subdue the asthmatic attacks which accompany this troublesome complaint.

When peroxide of hydrogen comes in contact with any open or infected surface, ozone is set free, the microbes are instantly destroyed, as well as the unhealthy secretions which are caused by their action, and then the diseased surface is thoroughly disinfected and made perfectly clean and healthy. The residue of this reaction is water and a small quantity of coagulated albumen.

In fact, this peroxide of hydrogen treatment is based on the indisputable results which are obtained when a hay-fever patient is going to the White Mountains, where the atmospheric conditions are such that the air contains always a small quantity of ozone. The constant breathing of the ozonized air accomplishes the cure of this disease in a short time.

Hay-fever will always be prevented by an early application of Marchand's peroxide of hydrogen, in those cases which occur regularly at known periods of the summer. When the disease has developed, the same treatment will check it within three or four days, and the cure is effected in less than two weeks; but it is advisable to continue the treatment during the whole hay-fever season.

The remedy should be applied as follows:

First.—Spray the nostrils and the throat copiously and repeatedly two or three times every day with a mixture of one tablespoonful of Marchand's peroxide of hydrogen (medicinal) with 3 to 8 tablespoonfuls of water, according to the degree of inflammation.

Second.—By means of Marchand's hand atomizer and ozonizer, an inhalation of ozonized vapor should be administered with a mixture thoroughly made of equal parts of peroxide of hydrogen and glycerin. These should be carefully mixed and renewed every three days.

The duration of each inhalation should not exceed ten minutes, and should be taken three to six times daily. Inspirations should be as deep and prolonged as possible.*

The above treatment in hay fever is unequaled as a preventive, and it is the only cure for this periodic, repulsive, and very troublesome disease.

In Asthma, by Marchand's hand atomizer and ozonizer, inhalations of ozonized vapor should be administered three to six times daily. Any similar apparatus made of metal should never be used in connection with peroxide of hydrogen.

The action of vaporized peroxide of hydrogen, or ozonized vapor, on the diseased surface of the bronchial tubes or the cells of the lungs is similar to the action of this bactericide on any open sore or ulcer which is invaded by microbes. The microbial element is destroyed at the contact of ozone, which is set free, and the diseased tissues are purified and made healthy.

The mixture for inhalations which has given the most satisfactory results is made of equal parts of peroxide of hydrogen and glycerin. Mix well by shaking the bottle, and renew this mixture every two days.

The duration of each inhalation should not exceed ten minutes, and after each inhalation, during the winter, the patient should remain in-doors for fifteen or twenty minutes.

When of long standing, take internally every day two or three tumblerfuls of ozonized water made of 1 ounce peroxide of hydrogen with 2 pints of water. This will cleanse and purify the stomach and regulate the bowels.

In Bronchitis, by Marchand's hand atomizer and ozonizer three inhalations of ozonized vapor should be administered daily.

It is the most efficacious local treatment prescribed to subdue this disease. It quickly checks profuse bronchial secretion, and by its stimulating action on the diseased tissues of the bronchial tubes a cure is effected in a very short time.

Mix for inhalations equal parts of peroxide of hydrogen and pure glycerin. Shake well and renew every three days.

As a beverage, drink daily three or four tumblerfuls of ozonized water, made of 1 ounce peroxide of hydrogen and 2 pints of water.

This beverage will have the most beneficial effect on the stomach, which is always affected by droppings from the throat.

In this malady peroxide of hydrogen destroys the microbe or germs which are the cause of the disease, the unhealthy secretions of the bronchial tubes disappear, and the diseased tissues are made healthy.

In Whooping-Cough, Dr. Burger, of Bonn, Germany, and Dr. Affanassieff, of Russia, have demonstrated the presence of micro-organisms in whooping-cough

* In very severe cases an application of glycozone to each nostril, morning and evening, will accelerate the cure.

The ozonized vapor inhalations constitute a very important part of the treatment for this disease, as it relieves immediately asthma, which always accompanies hay fever.

sputum. Dr. Affanassieff has prepared, with all the precautions, for microscopical experimentation, a small portion of the expectoration of a whooping-cough patient, which showed many short rod bacteria, part singly, partly in two and of larger chains.

With pure cultures of these rod bacteria the investigator has made several experimental inoculations on animals. A solution of this culture on agar-agar, at least eight days old, in one-half a cubic centimetre of common salt, was made and injected into the windpipe or lungs of dogs and rabbits, of course under antiseptic precautions.

The animals all contracted a disease similar to whooping-cough, often complicated with broncho-pneumonia.

Several died, and the autopsy showed that the mucous membranes of the bronchi, of the trachea, and even of the nose, are the chief seats of the injected bacteria.

This same bacterium was found in the lungs and respiratory mucous membranes of children who died of whooping-cough.

Dr. Affanassieff considers it to be the true cause of whooping-cough, and names it the "*bacillus tussis convulsivæ*."

Dr. Schwenker (London *Lancet*, January 7, 1888) and Dr. Wenat (*Medical News*, June 2, 1888) have confirmed Dr. Affanassieff's observations.

One hundred cubic centimetres of the pure culture, containing a considerable quantity of these micro-organisms, have been submitted to the action of three cubic centimetres of peroxide of hydrogen. The complete annihilation of the bacteria has been effected in less than seven seconds of contact.

TREATMENT.—Whooping-cough being caused by a microbial affection requires antiseptic treatment, and peroxide of hydrogen applied in the following manner will effect a prompt cure :

First—Spray frequently and copiously the nose, throat, pharynx, and larynx with a mixture made of 1 tablespoonful peroxide of hydrogen with 4 to 6 tablespoonfuls of water.

The patient may swallow some of the remedy without discomfort, as it is beneficial and perfectly harmless. Three to four applications every day will be sufficient in most cases.

Second—By means of the hand atomizer and ozonizer, administer ozonized vapor three to six times daily to insure the complete destruction of the microbial element in the respiratory organs. The mixture for inhalations should be made of equal parts of peroxide of hydrogen and glycerin. Mix well, and renew the mixture every three days.*

It is a well-demonstrated fact that consumption or phthisis is caused by a microbe of a particular species which has been discovered by Dr. Koch, of Berlin, and which is called the bacillus tuberculosis of Koch.

With pure cultures of this bacillus, Dr. Koch and other scientific authorities have made experimental inoculations on animals. A solution of this culture on agar-agar was made, and injected into the windpipe or lungs of dogs. The animals all contracted the tuberculosis of the lungs or consumption. This bacillus is located in tubercles, and it causes the formation of ulcerated cavities of the lungs.

The bacillus tuberculosis is easily destroyed by antiseptic remedies; but, tho the annihilation of the microbial element is accomplished almost instantaneously by the action of peroxide of hydrogen, this remedy will not cure consumption when the disease has reached such a degree of development that the lung tissue has broken down. In fact, if it should be possible to bring this remedy into contact with all parts of the lungs which are invaded by the bacillus, undoubtedly the cure of consumption might be always effected by the ozonized vapor inhalations.†

* The disorders of the stomach which often accompany this disease will always be prevented and cured by the use of glycozone as an internal treatment. Dose : 1 teaspoonful of glycozone, diluted in a wineglassful of water, three times daily.

† Whenever ozonized vapor is mentioned, it means "vapor produced by the ozonizer from the mixture of peroxide of hydrogen with chemically pure glycerin."

TREATMENT.—Frequent and deep ozonized vapor inhalations should be administered three to six times daily, with a mixture of 2 to 3 tablespoonfuls of peroxide of hydrogen with 1 tablespoonful of pure glycerin, well shaken. Renew this mixture every three days.

The duration of each inhalation should not exceed ten minutes, and inspiration should be as deep and as prolonged as possible. The remedy will reach the lungs if administered either through the nose or mouth, by means of Marchand's hand atomizer and ozonizer.

Remain in-doors for fifteen to twenty minutes after each inhalation during the cold weather.

The ozonized vapor coming into contact with the bacillus tuberculosis, located in the ulcerated cavities of the lungs, "ozone," which is set free, destroys the microbian element immediately.

When consumption has not taken developments beyond its first or second stages—that is, when the ulcerated cavities caused by the bacillus tuberculosis are limited and can be easily reached by the ozonized vapor—this treatment prevents absolutely the spreading of the infection, and a cure is effected. But in consumption, at whatever stage of the disease, the relief of the patient will be surely and quickly obtained by the peroxide of hydrogen treatment.

Ozonized vapor has no corrosive, toxic, or injurious action on the healthy tissues of the lungs; on the contrary, it has very powerful stimulating properties. In addition to the inhalations, the administration of three tumblerfuls daily of ozonized water, made of 1½ ounces of peroxide of hydrogen with 2 pints of water, after each meal, is helpful.

In Sore Throat, Angina, Quinsy, Tonsilitis, and all Inflammatory Diseases of the Throat, spray or gargle the throat copiously and frequently with a mixture of 1 tablespoonful of peroxide of hydrogen with 3 to 6 tablespoonfuls of water. You may swallow the remedy without discomfort, as it is rather beneficial. In tonsillar abscesses gargle more frequently (every two hours, for instance), to destroy the pus which is present.

In Laryngitis, peroxide of hydrogen is certainly the safest remedy to apply.

Spray or gargle three times every day with a mixture made of 1 tablespoonful peroxide of hydrogen with 2 to 6 tablespoonfuls of water, and swallow a portion of the remedy. Often, ozonized vapor inhalations will accelerate the cure.

In Pharyngitis, spray or irrigate copiously the pharynx three times every day with a mixture of 1 tablespoonful peroxide of hydrogen with 3 to 7 tablespoonfuls of water; swallow a portion of the remedy, and administer ozonized vapor inhalations morning and evening. Appropriate internal medication may accelerate the cure.

Membranous Croup.—This disease seems to be caused by the same specific virus as diphtheria, but it shows a milder grade of infection.

When fully developed, whitish spots or membranous exudations are observed in the larynx. After the membrane is once formed, if left alone it may be cast off in the form of a cylinder, in bands or shreds. Some recent experiments have proved that Marchand's peroxide of hydrogen (medicinal) destroys these membranes after a short contact, and by its curative properties the diseased surface is made healthy.

In membranous croup, the nose, throat, mouth, pharynx, and larynx should be flooded every two hours with a mixture of 1 tablespoonful peroxide of hydrogen with 4 to 6 tablespoonfuls of water.

The membranes are destroyed, and by using this remedy frequently and very freely you prevent their reproduction.

In this way the physician will observe that the inflamed parts are thoroughly and quickly cured, and there is no danger of the patient being exposed to the suffocation resulting from the development of these infected membranes.*

* As an internal treatment, 1 tablespoonful of glycozone, diluted in a wineglassful of water and taken three times a day, will prevent any disturbance of the stomach, and it will regulate the bowels.

Diphtheria is at first a local disease which is secondarily propagated to the general organism by a contagious virus located about the tonsils; this virus is an albuminoid substance invaded by many bacteria called micrococci.

Peroxide of hydrogen destroys this virus instantaneously, and it has no injurious effects on the surrounding healthy tissues.

Spray or gargle copiously, every two hours, the nose, throat, mouth, pharynx, and larynx with a mixture of 1 tablespoonful peroxide of hydrogen with 4 to 6 tablespoonfuls of water. It is beneficial to swallow the remedy, or a portion of it, in gargling.

The virus germs are readily destroyed from the contact with peroxide of hydrogen (medicinal), and the contagion is therefore prevented.

When diphtheria is well developed it is necessary to spray the child's nostrils, throat, mouth, pharynx, and larynx more frequently with a mixture made of 1 tablespoonful peroxide of hydrogen with 3 tablespoonfuls of water.

It is only when the disease is spreading very rapidly that a more concentrated solution should be used. Then take 1 tablespoonful peroxide of hydrogen with 1 to 3 tablespoonfuls of water. †

A child's nostrils, pharynx, and mouth may be flooded every three hours, or oftener, from a proper spray apparatus made of hard rubber and glass, with diluted peroxide of hydrogen, without force and with very little discomfort; and any solution which finds its way into the larynx or stomach is beneficial rather than harmful. ‡

Adults and children old enough to gargle the pharynx and rinse the mouth *will get a better effect in this way.**

Deficient gastric secretion, with resulting fermentation of food, is, perhaps, the most prevalent cause of dyspepsia.

The two main constituents of gastric juice, acid and pepsin, may be deficient in quantity or disturbed in their relative proportions. Some acid is absolutely essential to the digestive process, while a little pepsin may be sufficient to digest much albuminoid food.

EXCITING CAUSES.—The profession well know that excess in eating and drinking, imperfect mastication and insalivation, the use of indigestible and unwholesome food and of alcohol, the imperfect arrangement of meals, over-drugging, etc., are chiefly the exciting causes of dyspepsia, and indigestion is the immediate consequence. Constipation of the bowels is an almost universal accompaniment of deranged digestion, and when persistent for years it is apt to lead to the most disastrous consequences.

The most prominent of the local symptoms of dyspepsia are: A sense of fulness and distention after eating, discomfort during digestion, lack of appetite and eructations, or heart-burn, flatulence, regurgitations of food, and sometimes, in acute cases, nausea and vomiting.

It is evident that any remedy which will restore the coats of the stomach to their normal condition will contribute to effect an absolute cure, providing the patient will observe a proper regimen.

Glycozone, by its wonderful antiseptic and healing properties, not only prevents the fermentation of the food in the stomach, but it cures, also, the inflammation or irritation of the mucous membrane in a short time. Consequently, the most powerful and efficacious treatment to be applied, to remove the causes of dyspepsia, can be formulated as follows:

Before or after each meal take 1 teaspoonful of glycozone in a wineglass nearly filled with water, stirred and taken three or four times daily.

Use no other remedy.

The digestion is accomplished, from the beginning of its application, without discomfort. The relief is almost immediate, and a cure absolute, if used persistently.

* As an internal treatment, 1 teaspoonful of glycozone diluted in a wineglassful of water, administered every three to four hours will prevent the microbial infection developing in the stomach of the patient, and that is a very important result to obtain in order to avoid the infection of the system.

After a few days the secretion of gastric juice is made normal, and the most acute cases of dyspepsia, those of long standing, are permanently cured within two to six months of this treatment, when all other remedies have failed.

The mucous membrane of the stomach is usually the seat of a catarrh.

Among the direct exciting causes of gastric inflammation, corrosive poisons and the excessive use of alcohol are recognized to be more prevalent than any others.

Chronic catarrh of the nose is often the cause of gastritis on account of the large quantity of infected secretions which, after developing in the nasal cavities, find their way into the stomach.

The immediate consequence of that dropping is to produce an inflammation of the coats of the stomach, and little by little the microbial infection produces a general morbid condition having the symptoms of catarrh of the stomach.

In acute catarrh of the stomach the autopsy shows that the mucous membrane is covered with a thick, tenacious, stringy mucus; the secretion of gastric juice is very imperfect, and the digestion of food cannot be accomplished.

Glycozone, by destroying the morbid element which is the cause of this disease, rapidly subdues the inflammatory condition of the coats of the stomach, and then the mucous membrane, being restored to its normal state, the secretion of the gastric juice will become regular, and the digestion will not be disturbed.

TREATMENT.—Administer, three or four times daily, before or after each meal, 1 to 2 teaspoonfuls of glycozone, diluted in a wineglassful of water, well stirred.

This treatment will never fail to accomplish a cure within two to six months, providing the physician will impress on the patient that he should take his meals regularly and with sobriety and moderation.

Ulcer of the Stomach is due to various causes, of which the immediate effect is to interfere with the digestion.

Vomiting of food is an indication of gastric ulcer, and when severe is followed by hemorrhage.

The gastric juice is secreted with deficiency, and to remove the cause of this disorder a powerful antiseptic treatment is required. The most satisfactory results are obtained:

First—If the patient use as a beverage a small quantity of ozonized water at each drink, this ozonized water being made of 1 ounce of peroxide of hydrogen with two pints of water.

The microbial element is readily destroyed by the small quantity of ozone which is set free at the immediate contact of the ulcerated surface.

Second—The healing part of the treatment consists in the administration of 1 to 2 teaspoonfuls of glycozone, diluted in a wineglassful of water, three or four times daily, before or after eating.

This treatment is harmless, and relief almost immediate.

An absolute cure is effected within two to six months.

It is a proven fact that scarlet fever is caused by bacteria of the micro-coccus species.

Every physician knows that scarlet fever is a contagious affection to the highest degree, and that it may be communicated by anything that has touched the patient, such as air, food, clothing, sheets, furniture, and curtains. All discharges from bowels, kidneys, nose, mouth, eyes, ears, and skin are dangerous; and the poison may remain active for months or years by means of clothing packed away in drawers.

TREATMENT.—The germs which cause this disease are readily destroyed by peroxide of hydrogen, and the most powerful local medication is obtained in the following manner:

Spray or gargle the throat copiously and repeated every two or three hours with a mixture made of 1 tablespoonful peroxide of hydrogen with 3 to 5 tablespoonfuls of water.*

*As a beverage, glycozone should be administered three times daily. Dose—1 teaspoonful diluted in a wineglassful of water.

As a preventive treatment for secondary infection: On the third day of scarlatina fever, the whole body of the patient should be washed, morning and evening, with equal parts of peroxide of hydrogen and tepid water. Use a porcelaine dish and a clean, soft sponge.

This surface treatment does not preclude the internal medication, which may be deemed necessary by the attending physician.

Typhoid Fever is caused by contaminated water.

Peroxide of hydrogen destroys these microbes instantaneously. Consequently, a beverage made of 1 ounce peroxide of hydrogen with 3 pints of water constitutes the most efficacious and powerful antiseptic treatment, which always prevents both pyemia and septicemia.*

This antiseptic medication does not preclude the general treatment which may be prescribed by the attending physician.

Carbuncle.—This affection, which is caused by the bacillus anthracis, is at first a local disease which requires a very powerful antiseptic treatment, immediately after the carbuncle has been opened by a surgical operation or otherwise.

The bacillus anthracis is easily destroyed by peroxide of hydrogen.

TREATMENT.—Wash or irrigate the sore, morning and evening, with Marchand's peroxide of hydrogen, full strength, taking great care that the liquid should be thrust into the discharging sinuses, to secure the complete destruction of the microbial element; the pus is also destroyed, and the cleansing of the sore is made perfect.

As a local dressing a double thickness of surgical lint should be soaked into glycozone and applied to the sore; and an over-covering of oiled silk should be used.

The above local treatment does not exclude internal medication.

List of Diseases which are Successfully Treated by Peroxide of Hydrogen and by "Glycozone."

THE fact that peroxide of hydrogen is the most powerful pus-destroyer is so well known among physicians who have used it that it is acknowledged to be unsurpassed as a cleansing agent for pus-discharging surfaces, especially in cases otherwise difficult of access, for the instant it touches pus, "ozone" is set free, effervescence takes place and continues till the pus is destroyed. Physicians may apply this remedy with safety, and they will always obtain satisfactory results in the treatment of affections caused by germs or microbes.

Peroxide of hydrogen should be applied to the treatment of the following diseases:

Open boils, open abscesses, mastoid abscesses, ulcers (syphilitic or not), scrofulous sores, cancerous sores, bed sores, local gangrene, broken ampulla or blisters, apathie or ulcerations of the mouth, stomatitis, burns, herpes zoster or zona, eczema, skin diseases, itch, piles, and all microbial affections.

TREATMENT.—As a rule, these diseases should be treated as follows:

First—By means of a glass dropper, or otherwise, apply Marchand's peroxide of hydrogen (medicinal) to the sore, and take care not to remove the white foam which is generated when this remedy comes in contact with the diseased surface; let it stand till it disappears, which occurs in a few minutes.

Then, by means of a glass dropper or a soft camel's-hair brush, apply the glycozone to the sore, and cover it with a double thickness of surgical lint soaked in peroxide of hydrogen.†

*Glycozone, administered three times daily in the proportion of 1 teaspoonful diluted in a wineglassful of water, will prevent the disorders of the stomach.

† It is advisable to apply both peroxide of hydrogen and "glycozone," full strength, but it is not always possible, in cases when the sore is exceedingly tender. Then the peroxide of hydrogen should be diluted with water, and the glycozone should be thoroughly mixed with chemically pure glycerin.

The Physiological Action of Cocaine.

DR. H. F. JORDAN, MEMPHIS, TENN.

EDITOR ITEMS:—My excuse for again bringing the action of cocaine before the profession must be the article in the October ITEMS by Dr. McAnnally. It does appear that a rational being, being so unfortunate as to have had one of his patients go "dead" from the effects of a drug, would have looked into the systemic action of the drug. Now this does not appear from his article, for, in truth, he is still in doubt as to the *modus operandi* of the patient's resuscitation, and leaves one to infer that the two or three minutes' study before help was called was the mental endeavor of his life. The doctor, in his mental distress, "threw his patient on the floor, and the patient came too." This was an aimless, random shot, but it went home, for gravity interceded in nature's behalf, relieving the cerebral anemia caused by the drug, and the cyncope vanished. However, the doctor thinks this relief was nothing he did. This case may be very aptly described by Byron's satire:

"Tho death had threatened an ejection,
His youth and constitution bore him through,
And sent the doctor in a new direction."

Dr. Hammond having made an exhaustive study of the drug on himself, taking as large a dose as eighteen grains hypodermically, I think his conclusions may be taken without question.

Dr. Hammond began his series of experiments by injecting one grain of cocaine under the skin. "The first effect ensued in about five minutes, which consisted of a pleasant thrill, which seemed to pass through the whole body. This lasted about ten minutes, and shortly its appearance was accompanied by a sensation of fullness in the head and heat of face. There was also noticed a decided acceleration of the pulse with increased force. On feeling the pulse five minutes after taking the injection, it was found to be ninety-four, while immediately before the operation it was eighty-two."

There was also noticed mental activity and a sense of exhilaration. In each experiment, as the dose was increased, the symptoms were more pronounced. When eighteen grains were taken at once, an effect was produced on the heart, and before the last injection was taken, which was fifteen minutes after the first (the eighteen grains being taken in four portions, five minutes apart), the pulsations of the heart were one hundred and forty to the minute and characteristically irregular. In all former experiments there was great mental exhilaration, amounting at times almost to delirium, yet under Dr. Hammond's control. But, in this instance, consciousness was lost within a half hour after finishing the administration.

Dr. Hammond concludes his article by saying: "I'm not aware that a fatal dose of cocaine has yet been indicated by actual fact. Probably eighteen grains would kill some people; and, perhaps, even smaller quantities might, with certain individuals, be fatal. But these are inferences and not facts; but, so far as I know, there is not an instance on record of a person dying from the administration of cocaine. He was inclined to think that a dose sufficient to produce death would do so by its action on the heart. There was no marked influence exercised upon the spinal cord, or on the ganglia, at the base of the brain. Thus there was no disturbances of the sensibility (no anesthesia or hyperesthesia) and no interference with mobility, except some of the muscles, especially those of the face, were subject to slight twitchings. In regard to sight and hearing, he noticed that both were affected, but that, while the sharpness of vision was decidedly lessened, the hearing was increased in acuteness. At no time were there any hallucinations."

Dr. Jardin Beaumetz, in his lectures on local anesthetics, notes the frequent occurrence of cyncope, which he attributes to cerebral anemia, due to the action of cocaine on the vaso-motor nerves; and further, that the dorsal position plays a considerable part in the appearance, or non-appearance, of cyncope; *e. g.*, the further

dorsal decubitus is departed from the more likely cyncope is to supervene. Also, that anemia is conducive of cyncopeal attacks in the administration of the drug.

Beaumetz concludes that cyncopeal attacks do not supervene in the absence of anemia, and in no case where the recumbent position is maintained. He further states: "That it has an evident action on the temperature, which it raises; it is, therefore, a hyperdermic agent."

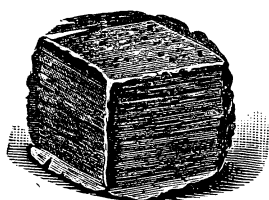
Moreno Y. Maiz, who was the first to write on the alkaloid, in his thesis of 1868, made mention of the following facts: "In large doses, cocaine produces, in animals, diminution, then annihilation of sensibility without mobility being completely abolished; in all cases the pupil remaining dilated."

It will be clearly seen that cocaine is not fatal in ordinary doses hypodermically, but that, in an anemic patient, its administration is not advisable, more especially if the dorsal position is departed from, as is the case in the extraction of teeth.

New Method of Vulcanizing Rubber Plates.

GEORGE B. SNOW, D.D.S., BUFFALO, N. Y.

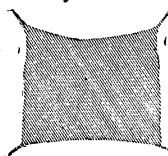
IN *The Dental Advertiser* for 1887, the subject of *shrinkage of rubber* during the vulcanizing process was discussed at some length. It was shown that during the process of hardening, a mass of rubber compound experienced an actual decrease in bulk, its specific gravity being considerably increased. The *expansion of rubber by heat* also received some notice, and the following experiment was suggested, as affording proof of the facts asserted:



"Let a cube of unvulcanized rubber compound be made of about five-eighths inch dimensions. It may easily be built up of squares cut from a sheet of gum. Let it be invested in plaster in a dental flask, by placing it on a bed of soft plaster and immediately filling the flask. There will be no parting joint, and no escape for the rubber. Let this be vulcanized after standing twenty-four hours, or long enough to insure a complete and thorough hardening of the plaster.

"It will be observed that the plaster has cracked at each angle of the cube, and a thin fin of rubber has been injected into the opening. The expansive force of rubber, as illustrated above, is one source of the trouble experienced in putting up dental plates. If the rubber is closely confined, a force may be exerted by its expansion which the contents of the flask cannot resist. Broken blocks, open joints between the sections, teeth forced out of place; all these annoyances are due to the close confinement of the rubber by insufficient gateways, or from their being filled with surplus rubber by careless packing.

"Another inspection of this tube will show that the sides, instead of being flat, as they were when it was flaked, are concave. In this case, the shrinkage, follow-



ing the plane of least resistance, took place chiefly on one side—the top; small air bubbles in the plaster retaining the other sides, and preserving them in nearly their original shape. The concavity, being nearly all on one side, is all the more perceptible. The explanation of this phenomenon is very simple: the rubber, as it hardened, became more dense, and suffered a sensible diminution in its bulk. This shrinkage is inherent to the process of vulcanization, and occurs with all rubbers, unless vulcanized at such a heat as to render the mass spongy in the center. The manner of vulcanizing makes little if any difference. Whether invested in plaster or closely enveloped in heavy tinfoil; whether vulcanized under water or in steam; whether the compound be rubber and sulphur alone or largely composed of pigment or other foreign matters; black, red, pink, or amalgamated rubbers; the result in all cases is the same, varying in degree according to the amount of foreign matter contained in the compound. Sides of samples which were flat before vulcanizing are invariably concave afterward."

The term "shrinkage" will be used in this article to designate the alteration in bulk and specific gravity which rubber undergoes in the process of its transformation into vulcanite.

The terms "expansion" and "contraction" will be similarly used to denote the changes induced in the mass by changes in the temperature.

The term "mechanical pressure" will be used to denote the pressure brought to bear on the contents of the mold by the act of closing the flask.

The pressure which the rubber exerts on the mold as it expands when heated will be called "expansive pressure," in contradistinction to "steam pressure," which is brought to bear on the flask and its contents by the evaporation of water contained in the vulcanizer during the vulcanizing process.

Shrinkage is greater in amount, in proportion to the purity of the rubber compound. Its effects are well known to be more apparent and more annoying with black than colored rubbers; the latter containing a large amount of foreign matter, which undergoes little or no change during the vulcanizing process. Black rubber has, indeed, been discarded by many, on account of its excessive shrinkage; notwithstanding the fact that deleterious effects on the health have been observed arising from the use of red rubber in the mouth.

The effects of shrinkage may be seen, and have often been noticed by those who, in the process of repairing rubber plates, have occasion to remove a block of teeth therefrom. If there is any considerable amount of rubber under the teeth, a space will be found between the two into which a thin instrument can be easily passed. This space is usually a receptacle for the débris of food, which, being there retained, decomposes and gives off disgusting odors.

It is the frequent experience of those wearing rubber plates, that, notwithstanding any efforts which may be made to secure cleanliness, the odor from them will be sufficiently strong to affect the breath. The reason is apparent if there are pockets under the teeth, full of decomposing organic matter.

This condition of things was known and recognized in gold plates, when the teeth were ground and fitted to the plate, and afterward backed and soldered thereto. No one could make a joint under such circumstances so close as to exclude organic matter. And one reason why rubber came so rapidly into use was the fact that it seemed to promise immunity from this defect.

Sometimes defects betokening shrinkage will be apparent, as when crevices are seen at the shoulders below the crowns of bicuspid and molars; but it is more often the case that a dentist is wholly unaware of any imperfection in the plate. The joints between the teeth and rubber will appear to be perfect, the defect remaining unsuspected possibly till repairs are needed, and it becomes necessary to remove some of the teeth from the plate. At this time it will often be found that the teeth are imperfectly supported, there being spaces under them filled with débris of food, and that, moreover, the pins are not well anchored in the rubber. If plain teeth have been used, the defects are often apparent from the start, and single teeth, standing alone, are sometimes so loose as to necessitate making the plate over.

The assertion is here made that the defects mentioned above are the rule, and not the exception; and tho the statement will, no doubt, be denied, it is the fact that their existence can be demonstrated in the majority of rubber plates.

There is also a question whether shrinkage is not to blame for the difficulty sometimes experienced in fitting rubber plates to mouths requiring a considerable amount of so-called "restoration," involving the use of a large amount of rubber over the alveolar ridge. It is the experience of any dentist who has had much to do with rubber plates, that the best fits and most satisfactory plates are those in which it is impossible to set the teeth close to the alveolar ridge, leaving but little rubber under them; while annoyance is usually experienced when the use of a large quantity of rubber is required at this point. These facts have been recognized and deplored by many dentists, but as yet no one has pointed out the method by which

shrinkage can be perfectly controlled. It is almost a self-evident proposition that if the rubber can be made to apply itself closely to the teeth, leaving no interstices for the detention of particles of food, securing perfect support to the teeth and perfect anchorage for the pins, that a more cleanly, durable and satisfactory denture can be constructed on vulcanized rubber than has heretofore been done.

A few experiments recently made have thrown some light on the subject, and it is now believed that a method can be pointed out by which the defects and annoyances heretofore alluded to can be wholly overcome, and that perfect vulcanization of a dental plate can be made easy. The results of these experiments and the process of vulcanizing deduced will form the subject of the remainder of this paper.

To determine the time at which shrinkage occurs a number of samples of rubber were vulcanized at times varying from ten to ninety minutes, at the same temperature, 320°; the Coolidge Regulator being used to insure uniformity in temperature.

The specific gravity of the specimen of unvulcanized black rubber was 1.13398. The same rubber vulcanized for forty minutes at 320° and imperfectly cured, had a specific gravity of 1.19082. At the end of one hour, when it was thoroughly hard, it was 1.19284. It will be observed that the increase of specific gravity for the first forty minutes was $1.19082 - 1.13398 = .05684$, while for the next twenty minutes it was only .00202; showing that the greater part of the shrinkage took place in advance of the hardening process, and was nearly completed during the first forty minutes. The relative bulk of the same mass of rubber, soft and vulcanized, would therefore be 1 to .9506.

The writer has been unable to find any data giving the rate of expansion, by heat, of crude rubber. Samples from different localities differ to some extent in physical characteristics and in their composition; and it is quite possible that their rate of expansion, if ascertained, would be found to vary. It has been found experimentally, however, that the expansion of vulcanizable gum from 212° to 320° amounts to about as much as its shrinkage in vulcanizing.

The expansion of vulcanite (black) is set down as .000428 of its length for each degree (Fahr.) between 52° and 77°. Between 77° and 95° it is .0000468 for each degree. These numbers give the average between the temperature named. It will be observed that the rate of expansion increases with the temperature, as is usual with solids. Allowing that the rate of increase remains constant, its linear contraction in cooling from 320° to 80° will be as 1 to .99369. Its cubical contraction, or decrease in bulk, would be as 1 to .9812; much less than its shrinkage. By the conjoining action of shrinkage and contraction, a mass of rubber, being vulcanized, would be reduced in bulk as 1 to .9388.

In the ordinary method of molding a plate in a bolted flask, gateways are cut, to provide for the escape of surplus rubber, and the mold is packed with a sufficient quantity of gum to fill it. The two parts of the flask, being bolted together, are heated to soften the rubber, and the flask is closed; any surplus rubber oozing from the mold into the gateways. The flask is then put into the vulcanizer, and heated to the vulcanizing point. While the heat rises, the rubber continues to expand; and it is constantly oozing from the mold into the gateways. If it were cooled, even before it reached the vulcanizing point, there would certainly be a vacuity somewhere in the mold from contraction.

The moment the vulcanizing point is reached, and the temperature becomes stationery, shrinkage begins; the expansive pressure is relieved, and in a few moments the mass of rubber becomes too small to fill the mold. As it adheres to the surface of the plaster, it is drawn away from the teeth and pins, to which it has less adhesion; as the rubber will not pass from the narrow gateways back into the mold to fill the vacuity, except possibly to a very limited extent.

If radiating gateways are not cut extending into the mold, but merely a circumferential chamber of escape be employed, from which the rubber in the mold is entirely cut off as soon as the flask is closed, the use of bolts to hold the parts of

the flask together will be found to be very dangerous. The rubber, in its expansion as it is heated to the vulcanizing point, will exert a force which the plaster mold cannot resist, and the consequence will be the injection of the rubber into the joints, and possibly the cracking of the blocks and their displacement.

If the mold, prepared in this manner is held in a spring clamp while vulcanizing, the expansion of its contents will cause the spring to yield, allowing the flask to open a trifle; and a certain quantity of the rubber will escape into the chamber surrounding the mold. The escape will not be free, and the natural elasticity of the rubber will allow of the retention of some of it which would escape if the radial passages were present. The increased pressure on the rubber will be likely to cause its injection in the joints between the blocks, and if any of it escapes there will be a vacuity from shrinkage; it is quite possible, that it will be less than in the former case.

To produce perfect results, the mold must contain just that quantity which will fill it when vulcanized, at a temperature so low that it will have no tendency to "flow," or change its shape permanently.

After the rubber is pressed into the desired shape, or, in other words, after the mold is packed, it must be relieved of any constraint which will resist the expansion of its contents by heat and cause them to escape.

After the shrinkage incident to vulcanizing has taken place, the mold must be pressed, to force the rubber against the teeth and pins; and this pressure must be continued till the plate is nearly or quite cold.

To test this theory, a set of teeth was mounted, setting them at a considerable distance from the model. They were flaked, the usual gateways were cut, radiating from the mold, with an encircling channel. The mold was then packed with black rubber, substantially in the manner above suggested. The flask was left free to open as the rubber expanded by heat, and pressure was applied to close it, nearly at the conclusion of the vulcanizing process. Another set, a counterpart of it, was mounted, flaked in a bolted flask, packed with the same kind of rubber, and vulcanized in the ordinary way; the flask being firmly bolted during the process. Both sets were allowed to remain in the flasks until cold. When they were vulcanized and finished, one set could not be distinguished from the other. They were both perfect, so far as could be judged by outward indications.

A bicuspid block was then broken out of each set. In the first set, the pins which held the block were found to be firmly held by the rubber, which also fitted closely against the under sides of the teeth, so that the joint was apparently perfect. In the other, the pins were loose; and there was a considerable vacuity under the remaining blocks, nearly a thirty-second of an inch in depth.

The sound given forth by these plates when dropt on the table was distinctive and characteristic. The first gave a ringing sound as tho it were but one piece; the other rattled as if cracked. They could be easily distinguished from each other in this way with the eyes shut.

This experiment was performed with the Crane vulcanizer, which has a screw-press attached to it, with a spring interposed between the screw and the presser-foot which bears on the flask. This mechanism gives perfect command of the amount of pressure applied to the flask and the time of applying it. It therefore fills all the requirements of the method of vulcanizing suggested above; giving a gradual and equable pressure, which can be applied at any time during the vulcanizing process, as desired. The amount of time and attention required is but a trifle more than is requisite with the old method.

A number of plates have since been molded by this method, for use. Their adaptation to the mouth is good, and they have proved satisfactory in every way.

The same results can be attained in an ordinary vulcanizer, but it will be necessary to heat the flask twice. It will also be advisable to use some kind of a spring clamp, possessing power enough to make the rubber flow and re-adapt itself when re-heated. The *modus operandi* will be as follows: Pack the mold with rubber

as usual, and close the flask either with bolts or a flask-press, as may be preferred. Before putting it in the vulcanizer, slack off the bolts sufficiently to allow the flask to open when the rubber expands by heat, so that it will not be forced into the gateways. After it is vulcanized, let it cool slowly till there is no steam pressure on it; then remove the flask, place it in the spring clamp, replace it in the vulcanizer and re-heat it to 320°, and allow it to cool slowly. It is *always* best to keep the flask in the clamp and under pressure till cold.

In this case, the mold contains more rubber than it would if held firmly, by the amount which would have been forced into the gateways by expansion as the heat was raised to the vulcanizing point; and this amount is sufficient, or nearly so, to completely fill the mold while hot and after vulcanization. The rubber is harder and not quite so tractable as when partly vulcanized, and the process requires more care and attention than is required with a vulcanizer capable of pressing the flask at the proper time while vulcanizing; but the operator is thus enabled to test the theory herein set forth, and to satisfy himself of the benefits to be secured by putting it into practice.

This process may be varied by first vulcanizing the plate about three-fourths the usual time; then applying the pressure and re-vulcanizing to finish.

The following precautions must be observed. Any sudden change in the steam pressure may result in the formation of steam in the flask, and injury to its contents; as it is not held together as it usually is. Therefore no escape of steam, by opening the blow-off or blowing out the safety disk, should be allowed. Neither should the vulcanizer be suddenly cooled by putting it in water, or otherwise.

It is believed that the results obtained will amply repay the operator for what little additional trouble he will incur in using this method of vulcanizing.

National Dental Education.

R. OTTOLENGUI, M.D.S., NEW YORK.

MR. PRESIDENT AND GENTLEMEN OF THE AMERICAN ASSOCIATION:—I have the honor to address you on the subject of advanced dental education. I have had some experience in journalism, and I have discovered that even a good and valuable idea may lie buried, and therefore lost for years, notwithstanding the fact that it may have appeared in a leading journal. Midst the busy rush in this waning century, we read, commend, and then—forget. To appeal to men's minds and obtain recognition for an idea, the originator must cry from the house-tops and keep crying till he attracts attention.

I have conceived an idea by which I hope to see the school system in our profession improved till the man who holds a degree which permits him to experiment on humanity, shall be a man whom humanity may trust. In my mind's eye I see the time when those who are endeavoring to retard our onward progress by advocating the idea that we have no individuality, but are only a part of something else, will be silent, because the honor which they seek for us will be unnecessary, from the fact that to be a dentist will be honor *par excellence*.

This cannot be while diplomas may be granted by any ten men who have influence enough, or money enough, to obtain a charter. This cannot be while the men who grant degrees are winning dollars in proportion to the number of men passed. This cannot be while each college sets its own standard. Such standards are necessarily influenced by environments. The time must come when a dentist will be a dentist. In that day the dentist in California will be the same as the practitioner on the Atlantic coast or on the Mississippi. In that day the dentist will not be a specialist in medicine, because he will know all that his medical brother has learned and something more. He will be an oral surgeon in all that the words can be made to imply.

But this you say is utopian: How is all this to be accomplished? I cannot tell you, but I can suggest a method which will lead us in the right direction.

A year ago it seemed to me I had found the solution to the educational problem. I studied and elaborated my scheme till, at last, in the January number of the *Review*, appeared my monograph entitled "Looking Forward." This contained a description of that which you say is utopian. As I have said, the single publication of an idea attracts little attention. It was not a part of my plan, however, to let it rest with this one article. In that I described the ultimatum. It remains to show the means by which we may attain it.

I had reprints made which I sent to leading men, at home and abroad, asking for a reply expressing an opinion as to the desirability of the change which I advocated. I will give you quotations from a few of the letters which have reached me, which will emphasize the fact that the present system is considered inadequate. But first I must quote from "Looking Forward."

The following conversation is supposed to have occurred in the year 2000 :

"Yes," said I, "I can remember there were many colleges and considerable competition between them. The number of graduates was enormous."

"Exactly. There was great competition. There were too many schools, and the result was men were graduated who were not sufficiently qualified. The colleges were forced to do this to attract students. Finally, the several States began to protect themselves with prohibitory laws. State Boards of Examiners were created with power to confer degrees and to control the practice of dentistry in their localities. Massachusetts even made it compulsory for a man to obtain her special degree. It was obnoxious for a man graduated by a college to be compelled to submit to a second examination before he was allowed to practice. Yet the law was meant to force a higher standard on the colleges. Thus degrees were multiplied and each State had a separate dental law. In the United States Congress, which met in 1924, a new era dawned. At last it was seen that the sovereignty of the States on some questions was a menace to the integrity of the Union as a nation. Amendments to the constitution were recommended, and finally adopted, which enacted national laws on many questions, repealing the existing State laws. The most important of these laws were in relation to marriage and divorce. There were a number of others, and among these were laws regulating the practice of medicine and dentistry."

"You mean there is now a national law regulating the practice of dentistry?"

"Exactly. It is brief and effective. No man may practice in the United States unless he holds a degree conferred by the National University. That is, D. O. S.—Doctor of Oral Surgery. It was deemed advisable to make the degree a new one, that the law could be better enforced."

"But," said I, "since there can be but one university, it seems unjust to compel attendance from distant localities."

"You do not grasp the idea. The colleges continue to exist as heretofore. They are the schools. A student attends a course covering three full years. If he passes the examination at his college, a certificate is accorded to him which entitles him to attend the University examination."

"He is not admitted at once, then?"

"Of course not. In that case the standard of excellence in the colleges could not be controlled. No, he must be examined before entering the University. If he passes, he attends a course of lectures covering six weeks, and is then examined for his degree."

"There is still the objection which I raised. The student from a distance is not on an equality with those living near."

"The certificate granted by the college entitles the student to free passage by rail and return, to and from the University town. Of course this is simple since the Government bought out and controls all railroads."

"Suppose a man does not pass either of these examinations?"

"In either case he is returned to the college. And, as the college was evidently

at fault in granting its certificate to an incompetent man, it is compulsory on them to receive him for a fourth term without fee. This is a further incentive to make the colleges strict."

Doctor Louis Ottogy follows my example and dates his reply 1990, or one hundred years ahead. He says:

"The subject of education is under the immediate control of the Minister of Education—the Secretary of Education, who is a member of the President's Cabinet, ranking third in the order of precedence, the Secretaries of State and of the Treasury outranking him. The entire educational system is under his control. A constitutional amendment, ratified by all the States, having voluntarily yielded this part of the sovereignty of the States to the general Government for the general good. There is a National University at Washington and a State University in each State. Departments of each State University are established in different cities according to the location where the best results may be derived. In this way it happens that the Agricultural Department of the University of Illinois is located at Podunk, while the dental and medical schools are at Chicago. The Secretary of Education will permit the establishment of only the number of schools necessary for each profession. In 1990 there are five dental schools—in San Francisco, Chicago, Boston, Washington and New Orleans.

"The Board of Examiners, consisting of five, conduct the examinations, one at each school, at the same time. Nothing less than the B. A., or its equivalent education, will admit a student to the State University, and he must have devoted at least one year to manual training."

The doctor does not explain the working of the National University, but I suppose he means the classes there to be made of graduates from the State Universities, in which case it would be a sort of post-graduate course for the men who are really anxious to become fully educated. Such a system as Dr. Ottogy describes is devoutly to be wished for, but a national public school system is in the dim future.

Dr. G. V. Black writes:

"Perhaps dental education will never be entirely satisfactory to those of us who make an earnest effort to push it forward. *Certainly it will not while the qualifications of the pupils, both for entrance and exit, are controlled by that circular god with the eagle stamped on the reverse side. I have become satisfied that it would be best for all concerned, if the final examinations were controlled by a board free from that kind of influence.*"

Dr. J. Allen Osmun writes:

"In reading your article 'Looking Forward' I am more than ever impressed with the fact that some scheme of universal application is urgently needed, to equalize the various laws now existing in relation to the practice of dentistry." * * * "It would be a grand thing for the dental profession if something definite could be brought about so that *all graduates should stand on an equal footing.*"

Dr. C. N. Peirce writes:

"I fully sympathize with your idea that *we shall never have a satisfactory standard of efficiency till we have a national—a single body—on whom shall devolve the responsibility and power of conferring the degree which shall represent that standard.*" Your Dental University nicely covers the idea. The school, or rather the faculties that teach, must be deprived of the power of granting degrees. To reach the ideal it must be done by an impartial body who knows the applicant only through his qualifications, and without reference to where he has been educated."

We must come to the point of having not only our State laws in uniformity, but our colleges all in proper shape, and the best means to accomplish this would be, I think, through a National Board. If we can bring this about, our State laws must be so framed that a degree coming from the National Board would be sufficient in all the States without a re-examination.—*Dr. Noble.*

Tobacco.

DR. S. D. POTTERF.

IT does not seem reasonable to me that any one should use tobacco. It does not mean food, medicine, or anything else to the system, but harm. And it surprises me more that any dentist should use it and expect to have patients respect his advice in regard to keeping their mouths clean. In fact, filling teeth does not amount to much unless the mouth is kept clean. I say I do not see how any dentist dare use tobacco in any form. The idea of a dentist having his mouth, gums, teeth and lips stained with tobacco, and his breath loaded with the odor of it, is enough to drive a dog from him; and if you do not believe it, try it on a nice clean dog, it will turn its head and walk away if you persist in breathing it in its face. No dentist has any right to subject his patients to such a breath, ladies or gentlemen. Leaning over them unavoidably while at work, it is enough to make them sick, and it does sometimes, as it does me while at work for patients who use tobacco, and if mixt with the odor of beer it is simply horrible. I am sorry to say that I have known of otherwise good dentists who were guilty of imposing just such a mixture on their patients while operating for them. In smoking, one's clothing, hair, beard, and even skin retain the odor of tobacco many days and even weeks after being exposed to the fumes of tobacco. I doubt if many dentists would be willing to indulge in anything else that would leave a stink with them so long as that of tobacco; and yet there are few smells that are more offensive to clean people. I have been asked repeatedly by patients if chewing tobacco injured the teeth. I have been able to answer the question, if they have used tobacco any length of time, by giving them a hand-glass and allowing them to examine their teeth. As a rule, the teeth are found abraded on the cutting edges, and sometimes very badly; indeed, in some cases nearly down to the gums. This may be in most part mechanical, caused by the extra amount of chewing necessary in the use of tobacco; but I do not think it is entirely so. I think the alkaloid, nicotine and the natural secretions of the mouth combine and form an acid which softens the surfaces of the teeth and makes them an easy prey to mechanical abrasion. I find in most every case that on the side of the mouth where the tobacco is carried, there is a black decay at or near the gum, and sometimes two or three lines under the gum, often reaching half way around the neck of the tooth, and sometimes quite encircling it. These decays are most often on the buccal surfaces of the lower molars and bicuspid, but frequently the upper molars and bicuspid are affected. Where a great amount of tobacco is used, it attacks the incisors and fissures of the molars and bicuspid. These cavities are often extremely sensitive; and in the mouths of those who smoke every day—and some people smoke all the time they are awake except while at meals—I find absorption of the gums, the gum receding most from the palatine surfaces of the upper molars and bicuspid; in fact, the palatine root of these molars is often exposed nearly and sometimes quite to the apex, the periodontal membrane is entirely destroyed, and the exposed surfaces of the root coated over with a black glaze almost as hard as the tooth itself. I know of a man, about forty-five years of age, who had at one time an excellent set of teeth, and who has been an inveterate smoker since young manhood. He is losing his teeth one after another; they become loose and finally get sore and he has them removed, tho there is no decay of the tooth proper.

It is often said of a drunkard, "It is a great pity; he is an excellent, good-hearted fellow and a good business man, only he drinks." The same may be said of many good, whole-hearted fellows in dentistry as well as out—they are, in the full sense of the term, gentlemen, except that they use tobacco.

Brothers in the profession, discard this filthy stuff, keep our mouths clean, and be examples to our patients. Besides, we professional men exert much influence for good or bad on the boys.—*The Ohio Journal of Dental Science.*

The New Jersey Dental Law.

REMARKS OF DR. E. PARMLY BROWN AND DR. S. C. STOCKTON IN THE AMERICAN DENTAL ASSOCIATION.

DR. E. PARMLY BROWN, of New York: The question of the unification of the dental laws of this great nation, composed of forty-nine States and Territories, is a very important one. I have been in the habit of telling in this country and abroad that the American Dental Association stands pre-eminently ahead of anything on the face of the earth in the way of a dental organization. It is an assertion that no one has ever dared to contradict, and if this subject is to be acted on by this body, and a committee is to be appointed, it should not be given a month or a year, but five years in which to accomplish their work. Is this a union? No. If we have forty-nine dental laws, each differing from all the others, we can imagine what the condition of affairs must be. I have been in dentistry all my life, but if I were to go from my State just across the Hudson river into the State of New Jersey to-morrow to practice, I should have to stand an examination before a lot of my boys, as I call them, men that I have made dentists of; to go before my children, and grandchildren, and great-grandchildren and have them ask me questions. They could ask them, and I should fail, according to their law; but I can take over into the State of New Jersey a little boy seven years old, who will ask all the boards of examiners in this country ten questions, and they will not answer more than one of them. I want but ten minutes to coach him.

If this association would compile—from all the State laws—a law that they considered good, and recommend it, it would have some weight.

The State of New Jersey says that a man having half a dozen diplomas, who has been practicing for over a quarter of a century, and who comes within their borders, must go before their board and answer a lot of questions which he has forgotten before many of them were born. This is simply nonsense. What is it done for? To keep good men from coming into their State, so that they would have the whole of that territory that separates New York from Philadelphia.

Dr. S. C. Stockton, of New Jersey: Dental legislation has been quite phenomenal in New Jersey. Some few years ago there was no law. Then a law was enacted that there must be an examination of all not graduates before a board of examiners. That helped dentistry in New Jersey very greatly. The State society also helped it very much. Then an attempt was made to pass a law that would confer a State degree under which the recipient could practice. Fortunately for dentistry, fortunately for New Jersey more particularly, that bill did not become a law. The very gentlemen who wanted it to go through are glad now that it did not. And now, as Dr. Brown has said, there is a law in the State of New Jersey that no one can practice dentistry unless he goes before the board of examiners, however many degrees he may have or where they come from. Now you may think from what my friend Dr. Brown has said, that if in the providence of good luck, my friend here, the father of dentistry (Dr. Atkinson), should come to New Jersey, that he would not be allowed to practice dentistry without an examination. Father Atkinson can come to New Jersey and practice as long as he lives, so can any man who is *qualified* to do so,* but that law was passed that men, coming from colleges either with or without diplomas—unqualified—may be stooped at our threshold.

I would say in closing, in regard to the working of the law in New Jersey, that the law has done much for dentistry. The practice of dentistry has come up from the low state in which it was years ago to the high which it occupies to-day, that is an honor. Its State society and its dental laws, I think, have been the factors which have worked the change. Those who have attended our conventions will acknowledge that dentistry has attained as high a standard in New Jersey as in any other State in the union.—*Dental Review*.

* Dr. Stockton, tho Dr. Atkinson would be *tolerated*, can any man who is qualified come to New Jersey and practice dentistry without being examined and licensed by the State Board?—[ED. ITEMS.]

Simple Methods.

BY PROF. L. P. HASKELL, CHICAGO, ILL.

IT does seem strange that so many dentists cling to methods of work that are cumbersome and difficult. As an illustration, take the use of zinc for dies. It is not reliable; it is difficult to use; it does result in annoyance, and worse than all, *misfits*.

And still the students in most of the colleges are put through the ordeal of making zinc dies, no matter if they have previously been instructed in and realized fully the benefits of the simpler methods of Babbitt metal; and recently the *Journal* published an article on the making of zinc dies, which demonstrated that the author fully realized the difficulties of using this metal.

I do wish I could make dentists comprehend that the making of metal plates is simplified to a remarkable extent by the use of Babbitt metal dies and *oiled* sand. If any dentist will call on me at any time, I shall be pleased to show him a large collection of models, comprehending almost anything that ever was seen in size, shape, and condition of alveolar border and palatal surface, and 90 per cent continuous gum cases without any vacuum cavities, and all made on Babbitt metal dies; each plate when swaged fitting the model and the mouth; no adjusting with pliers and burnishers. If further evidence of the value of these dies is needed, I do not know what it can be.

I must emphasize, however, that what is sold as Babbitt metal will not always answer the dentist's purpose. There are many formulas, some in which *lead* is substituted for tin, in order to cheapen it, but ruins it for dental use.

If any one wishes to make it for himself, the following is the formula: Copper, one part; antimony, two parts; tin, eight parts; and remember to *melt in the order named*, otherwise the tin will oxidize badly.

Now *pure lead* cannot be used for the counter die because it melts at a higher temperature than the die. Reduce the melting temperature by adding tin. Make it five parts lead and one part tin.

I have instructed hundreds in these methods and have yet to hear of the first one who has returned to his "wallowing in the mire" of zinc dies.

Since writing the above, I have noticed in the *Journal* for June, an article on "Swaging Plates," taken from the *Texas Journal*, and it is so apt an illustration of the subject, I desire to call attention to it. Were it a necessity to follow such a plan, I should want to quit making metal plates.

The first thing the writer does is to take "three or four impressions!!" Well, my patients think *one* impression is all they wish to endure, and it certainly is enough if that is a correct one.

Then he furnishes a formula for a composition for impressions that will enable him to cast his dies in them, instead of molding sand, "on account of the difficulties of sand molding." I wish I could have this writer in my laboratory for ten minutes only, and show him how the "difficulties of sand molding" would vanish. Then comes the *zinc* die again, following up with a *zinc counter* for the *final* swaging. Did he ever think for a moment of the result of using both die and counter of the same metal, and especially of zinc? As the counter does not yield any more than the die, the gold, being softer than either, must give way at prominent points, and tear, or so near to it as to be very thin. But there is not the slightest necessity for resorting to such measures. The plate will come to its bearings with the ordinary counter. In the use of Babbitt metal dies, and the lead and tin counter, I never find it necessary to make even a second counter.—*Ohio Journal of Dental Science*.

The last meeting of the American Dental Association was represented by only thirty-eight delegates from the one hundred state and local societies in the United States; hardly a representative body.

A Dangerous Little Beast.

THAT alcohol was the result of fermentation, had been observed of old, but how it resulted was the mystery, only of late (within the last fifteen years) fully cleared up. It is now known that what we call fermentation is caused by the sudden increase, by millions on millions, of a little animal cell, or microbe, only visible under the microscope, and which used to be called the yeast plant, but which is now dignified by the scientific name of *Torvula cerevisiæ*, which is Latin for the strings or twists that appear in cereal ferments; that is, those made from corn or grain, the gifts of the old goddess Ceres.

This little fellow is one of the most wonderful and, if rightly used, one of the most useful inhabitants of our globe.

He is not a plant, as was at first believed, for he feeds only on a vegetable substance, viz. : grape or fruit sugar, called in chemistry glucose; and he, in so doing, gives off carbonic acid gas, and an excrement which is a substance wholly devitalized by the living process of the little animal, much as ashes result from the burning of coal in a stove. These breathings and excretions only result from animal life, and in every way this microbe assimilates his sugar food—propagates, breathes, excretes, and lives like an animal; and, when dead and cremated, smells just like burning animal tissue. Now, this excretion of this fruit-sugar-eating animal is alcohol.

All of the alcohol of the world comes from this animal in just this way, and in no other. It is always the same substance, and has always the same properties—just as salt is always salt.

These little microbes, or yeast animals, are in the air, and pretty much everywhere. They dry up and seem to be dead, and float about, but as soon as grape or fruit sugar (glucose) is exposed, they are there, and the rate of their increase in it is marvelous. He is the father of our bread as well as our wine. We know him best as the active agent in the yeast cake, whence comes the useful fermentation which lightens our bread previous to baking.

A penny yeast cake, dry as a chip, contains at least 7,000,000 of these animals. Put him in warm dough, and in an hour he will count over 140,000,000; and this increase, and his minute carbonic acid gas breaths, will have made the dough throughout as "light as a feather," and ready for the oven. There the heat volatilizes the alcohol, which he excreted in the dough, and the result is we have light and healthy, instead of heavy, unleavened, indigestible bread—but free from alcohol.

In fermented liquors, like wine and cider, the amount of alcohol is not above fifteen per cent, while in brandy and distilled liquors it is about fifty per cent. But why only fifteen per cent? The reason is, alcohol is so deadly a poison to all living animal cells and tissues, that when it reaches fifteen per cent in a fermenting liquid it kills the yeast animal which excretes it, and the fermentation stops.

Now, just what alcohol does to the cell which produced it, it does to all animal cells and tissues; it is death to them to the extent used. No living thing can live in alcohol an instant. The human system is large and tough, and will endure a great deal, but a small dose of pure alcohol—only half an ounce—is immediate death. It fells the strongest man as tho struck with a stone, and for much the same reason, as we shall see, it causes a shock which is an explosion of the nervous system.

But, you say, people do take alcohol constantly. Yes, but only in drinks, largely diluted with water, so that fifteen to twenty per cent is the highest rate of alcohol.

Whisky and brandy are diluted, generally, more than half. If taken pure, the quantity is small and seldom taken, or it soon means delirium tremens and death. When, therefore, it is so well and so generally understood that alcohol is a poison that is sure to reck both body and soul, why go any risk in its use? It is not a food; it is not even a luxury to the normal appetite, and as sure as we beget an artificial appetite for it, so sure are we that it has made us its victim to destroy us.—O. A. PALMER, in *Med. Advance*.

Unification of Dental Laws.

DISCUSSION IN THE AMERICAN DENTAL ASSOCIATION.

DR. STORY, of Texas: On the subject of dental laws and dental examining boards I am glad to see that the American Dental Association has taken a high stand. It affords me a gratification I have rarely experienced, for it is on the right track. Coming as I do from the grand dumping-ground of the United States, where all the dental garbage of the world is thrown on us, where no law can be enacted that is originally gotten up by any man who puts on a clean shirt twice a week, I realize the real condition of things. We have a law in my State which says that the judge of each Judicial District shall appoint a Dental Examining Board, to consist of three reputable dentists, the judge to decide on the reputability of those dentists. There are forty-seven Judicial Districts in the State of Texas. Three times forty-seven would be one hundred and forty-one reputable dentists to constitute the examining board. I assert, without the fear of contradiction, that there are not half that many in the State of Texas. If we could secure a uniform dental law in the United States, one that would cover the ground and be equitable and advantageous to us all, it would be the grandest achievement that the American Dental Association has ever set on foot. In the matter of dental education, what a commentary these dental examining boards are on our dental colleges. I suppose there were probably seven or eight hundred men graduated last term from the colleges. I think the language used in conferring the degree is, that they are constituted Doctors of Dental Surgery with all the rights and privileges—to do what? To go before a dental examining board and ascertain whether they are competent to practice dentistry. If I were a member of a faculty I would resign immediately when the first examining board was appointed and one of the students that I had passed on had to go before that examining board. I would not give two bits for any dental diploma from any dental college in the United States if it only allows me the privilege of going before a dental examining board and being examined, in all probability by men who had never seen the inside of a dental college, or a medical college either, and who are as innocent of a knowledge of the great fundamental principles which underlie the science of medicine as ignorance well can be; who have been appointed to office rather on account of political preferment than scientific attainment.

These are facts. I am not guessing at anything. Political preferment, instead of scientific attainment, gets them on the examining board, and men, as my friend Dr. Brown has said, who have forgotten more than the boards ever knew have to go before those boards to be examined tho already carrying two or three diplomas. There is great injustice in these laws, and unless we can manage to unify them, I suppose they will always exist. But a progress in that direction has been made in the American Dental Association to-day, and I hope it will succeed in correcting the evil, and that a conference can be secured throughout all the States and with our members in Congress. I could not do anything in our Legislature, because it is a regular hayseed, and it won't do anything; but if we can get the subject before Congress in the proper shape, it will be a national cause. You cannot get forty-nine States to agree to anything. They will say to you what suits New Jersey does not suit Texas, even if it is a law regulating a profession. If a diploma from a dental college means anything it means that the holder is competent to practice dentistry. A diploma from any dental college should be a passport to any man who carries it into any State. The dental colleges should place their standard high enough. Time should not be the requisite for graduation in any school, but knowledge. Let the schools place their standard high enough, and when the student satisfies the faculty that he has reached it, give him a diploma; but do not give it to him till he does reach it, tho he may have grown gray in its pursuit. Then that diploma should be a passport to him anywhere.

Dr. Allport, of Chicago: My friend Dr. Storey says that a diploma from any

dental college should be a passport to practice dentistry anywhere. So it should be, and were all of our dental colleges what they ought to be, it would be. But many of them are not, and we know it.

We know, too, that a large majority of the diplomas that have been issued by this class of colleges, are no more an indication of their holders' qualifications to practice dentistry, than would be so many pieces of brown paper. And it is well known, too, that many of the teachers in these colleges are not qualified to properly practice what they assume to teach. It is necessary, therefore, that we have these State Dental Examining Boards, whose duty it is made to inquire into the quality of teaching done in our respective colleges and determine as to the significance and value of the diplomas that they issue, as well as to the qualifications of those not graduates who propose to enter on the practice of dentistry in our respective States.

Were it not for these boards the diplomas of one college would be of the same legal significance as another. Take, for instance, the State of Illinois. In the city of Chicago, we have twenty regularly incorporated dental colleges.

According to the laws of our State, every one of these colleges has the same legal right to issue diplomas as have the Harvard, the University of Pennsylvania, the Chicago Dental College, or the University Dental College of Chicago, and, but for the power given to our State Dental Boards to determine as to the respectability of these respective colleges, the diplomas of any of them would give their holders the legal right to practice dentistry in the State of Illinois.

Under the general incorporation law of Illinois the requirements to obtain a charter for a dental college, with the right to issue diplomas of qualifications to practice dentistry, are for three men to band themselves together and send three dollars to our Secretary of State and ask permission to incorporate and organize a dental college. A permit will be returned, whether the proposed incorporators know anything about dentistry or not.

Our State Board is the only protection that the people have to secure them against graduates of these dishonest concerns, and honest colleges should regard our State Dental Boards as their best friends.

Could we have a unification of the dental laws throughout the different States, as has been suggested, it would no doubt be a good thing, but so long as each State acts independently of the others, I do not see how this can well be secured through the State Legislatures, nor could it be done by an act of Congress, for the constitution of the United States gives to each State the right to regulate all such matters as it deems fit. But our National Association of Dental Examining Boards can, by agreement between the various State Boards, make themselves almost as powerful and useful as would an act of Congress or a unification of our State laws on the subject.

I can see, as Dr. Brown says, that in some cases it would be a seeming hardship for well-known qualified practitioners to be obliged to be examined by a State Board before they could practice in a particular State. But for the good of all, such a law is not without merit, for no one should be allowed to practice in any State unless the State Board was satisfied he was qualified to do so. But no sensible board would deem it necessary to enter into a critical examination of Dr. Atkinson or Dr. Storey before allowing them to practice within their State.

Dr. Goddard, of California: I am greatly in favor of unification of dental laws. I do not know that it can ever be done, except by an act of Congress. The attempt has been made to secure a universal dental law. Several years ago the National Association of Dental Examiners framed a law and sent it to the different States advising that this law be adopted. The law we had passed in California is almost exactly the same as that devised by the National Association. There can, however, be no unification of dental laws by State Legislatures, because our ideas grow. Since that law was devised by the National Association of Examiners, our ideas have grown; more is wanted than was wanted then, and laws that have been passed in other States since that time are in advance of our law. I see no way of

getting a uniform law except by action of the United States Congress. The interpretation of the law lies with the State Boards of Examiners. The boards have the power in some States to grant licenses to those who have diplomas from reputable colleges. That is the condition of our law. All others must be examined. The severity of the examinations rests with the State Board. Some complain that the State Boards have raised the standard too high, when they insist that all graduates must be examined. Our State Board seems to have been rather too lenient in granting permanent licenses to students in actual attendance at colleges.—*Dental Review*.

Dental Laws.—We are, in my judgment, in a transitional state. We are passing from the period without law to that when we are likely to be governed, and in a measure to be injured by law. The members of this profession must remember that there is danger in tampering too much with legal processes. There is a risk not only to this profession, but there is a danger to the liberties of every individual in this country. Those of us who have had the iron enter our souls under the old effete governments of Europe, know very well what it means to be ground down by enactments, and law necessarily is as much of a monarch as a king on his throne. It is time for us to think of these things.

I am not opposed individually to dental laws; but when they are as we have them, the request for their unification becomes imperative. If there is a law, as has been stated, in one State, that requires of every individual, whether he be a graduate or whether he be not, whether he has been in practice twenty-five years or one, that he must go before a board of examiners and pay a fee of twenty-five dollars for that examination, before he can practice dentistry, it is time we called a halt in this matter.

It will never do to take that position. Laws, as have been well stated here, are for the benefit of the people. When they become tyrannical and insist on having us do more than we can possibly attend to, then it is best they should be repealed. Having been an educator for many years I am naturally brought in contact and in sympathy with students, and I am not prepared to assist in making it so difficult for them that they will be unable to enter the profession except they go through a course that will really be an injury to them.—*Dr. Truman*.

A Dental Anesthetic.—The combination of cocaine and antipyrine in solution is said to act as a powerful local anesthetic on the gums and also on sensitive dentine. The anesthesia is more lasting and more complete than when cocaine is used singly.

Dr. Martin, in *L'Union Medicale*, suggests the following formulary which he has used with great success:

R—Cocaine	¼ gr.
Antipyrine	vj gr.
Aq. destil.	Mxvj.

Medical News.

Pyorrhea Alveolaris.—*Dr. W. G. Brown* says he has a case which he has permanently cured with the "Robinson remedy."

Dr. Patrick says: I take an excavator and scrape away all dead bone and other foreign substances, and then apply sulphuric acid, full strength, and find it a very successful remedy, rarely ever having a failure with it.

Inserting Glass Fillings.—This consists in sharpening a cavity with strong walls, so that an impression will "draw;" then an impression is taken with very thin platinum, which is in turn filled with ordinary lamp-shade glass, and the same is fused at the chair and flows so as to fill the platinum mold. The plug is then ground down to the proper level and set in place with cement or gutta-percha. The glass chosen for this operation is the milky-white lamp-shade, which is colored to suit by adding a few bits of blue glass and some of a yellow variety, all of an ordinary serap glass variety that fuses at a rather low temperature.—*Dr. J. E. Cravens*.

Scientific Hypnotism.

A FEW weeks ago Dr. Milne Bramwell and Messrs. Carter and Turner performed some interesting experiments at Leeds, in the presence of more than sixty medical men and dental surgeons, on the use of hypnotism as an anesthetic. Some painful surgical operations were performed on a number of patients varying in age from eight years to middle life; the operations were performed without pain and without the knowledge of the patients, except in the case of the boy of eight years. In one case the stumps of sixteen teeth were extracted. Mr. Pridgin Teale, one of the foremost surgeons of England, said after the operations that he was sure the time had come "when we medical men shall have to recognize hypnotism as a necessary part of our study." Such scenes naturally carry one's thoughts back almost half a century, to the time when Braid convinced himself in 1842 that he must give up his skepticism and admit the reality of artificial hypnotism with some accompanying anesthesia. Sir J. Tomes, one of the great dental authorities at that time, found that he could extract teeth painlessly and without the knowledge of the patient. In 1845, Esdaile, working in India in complete ignorance of what Braid had done, and without having ever seen a hypnotized person, hypnotized a Hindoo convict on whom he had just operated; the hypnotism stopt the pain and sent the patient to sleep for several hours. After that success Esdaile hypnotized his patients before the operations, and after five years of such practice he left a record at Calcutta of 261 painless operations, some of them very severe.

The growth of hypnotism at that time was undoubtedly arrested by the successes with chloroform. Now, as it seems, a new era has arisen for this drugless sleep and anesthesia. Its more recent foundation as a scientific principle has been laid in France by Charcot, Liebault, Gilbert, Janet, Myers, Perronnet, Bernheim and Ochorowitz. It is now established beyond all doubt that the utility of hypnotism is by no means confined to surgical operations; it has been found valuable in cases of painful labor, and at the meeting in Leeds Dr. Bramwell showed a man in whom he had re-established temperate habits by hypnotic suggestion. Here is a large field for this remedy. It would be intemperate to predict that all cases of intemperance will be found amenable to hypnotic suggestion—some intemperate people follow no sort of suggestion except one to take a drink. But, seriously, this is a great field for hypnotic experiments, and even the most optimistic utopian can scarcely conceive all the good results that would follow its successful use in curing drinking habits.

Hypnotism will never be a universal panacea; nature has never made such a thing, and never can. In the hands of unskilled people hypnotism is dangerous, and may be easily used for criminal purposes by the unscrupulous. Its use and experiments with it should be confined to persons that know how and when to use it. Public exhibitions of the effects of it should be prohibited and punished. The person that pretends to use it exclusively in the treatment of disease should be prohibited from using it at all; the interests of the public demand this, just as these interests demand that no person be permitted to hold exhibitions of the effects of opium or chloroform, nor to give these drugs indiscriminately in all cases.—*Editorial from Chicago Herald.*

Death of Mr. Geo. S. Mills.—Many of those who attended the meeting of the American Association, at Excelsior Springs, and had the pleasure of meeting Mr. Geo. S. Mills, the genial representative of the Associated Press of that place, will learn with regret of his death by accident on the night of the 16th ult., during the terrific rain storm that passed over this section on that date. The press reports of the occurrence were very meagre, but from them we gather that Mr. Mills was seen standing on the veranda of the Music Hall, about the time the storm came up. After the storm passed he was found lying on the ground near the east end of the building, insensible from injuries from which he died on the day following.—*Western Dental.*

Fitting Bands to Roots.

THIS purely mechanical operation is undoubtedly the most defective of any performed by the average practitioner, and may lead to serious results, if not carefully executed. The cause of this state of things may be considered twofold: First, lack of skill; second, hasty and careless methods.

The lack of skill is shown by the *tout ensemble* of the operation after the patient is dismissed, and is probably the greater of the two causes in bringing about so many failures.

The hundreds of students entering the profession every year are taught the latest methods of conserving the organs of mastication, and for supplying the place of lost members. This, at the present time, takes the form of crown and bridge-work, and, judging from our observations during the last year, we predict its speedy disrepute, unless more care is exercised in selecting proper cases, and more thorough work in completing the operations. It is only after much practice (on models, etc.), and a careful study of the whole subject-matter, that any reasonable degree of skill is to be attained, and no one should attempt the operation on a human being till such skill has been attained. The preparation of the root to receive the band causes most exquisite pain, even in the hands of skilled operators, but, when attempted by a tyro, who can measure the unspeakable anguish of the sufferer?

The second cause of failure is unpardonable—we may condone ignorance, but neglect is criminal. We hear of experts preparing the root, and inserting the crown, inside one hour, and have witnessed the clinics of some of these skilled operators, but have yet to see a perfect operation done against time. A poorly-prepared root can never receive a well-fitting band, and a root cannot be well prepared with very great haste, as hemorrhage is one of the persistent obstructors of such a performance.

The first step in an operation of this kind, presuming the case to be favorable, should be a careful study of the direction of the root's axis, so that in beveling the edge the band may go squarely to position, without leaving a sharp projection of the metal beyond the dressed surface, as such an occurrence will cause an inflammation of the surrounding soft tissues, resulting in a recession of the gum, if in nothing more serious. Next, in fitting the band, draw the band a trifle smaller than the prepared root, and the result will be a perfect adaptation.

The after-stages require the same amount of consideration to produce an artistic and perfect piece of workmanship, and if all the details are conscientiously performed, the result will be happiness to both operator and patient.—*The Dental Review*.

In many teeth coming under our notice having gold fillings in them, I find the crown solid, the teeth intact, but the condition of the pulp-cavity shows the force made use of in inserting gold has been destructive of the life of the tooth, because it has been excessive; that it has injured the pulp, and that disintegration of the tooth has followed. In the conservation of teeth of a frail character by the method of inserting plastic fillings for a year or so and then removing a portion of the crown of a filling and inserting a harder substance, such as gold or amalgam, I think we can avoid a great deal of the pressure on the tooth-structure, and have a more conservative treatment of them than we have by inserting a gold-filling from the foundation of the cavity. In too many instances we adopt a more rapid treatment, on the first visit of our patient, than we are justified in doing. I have observed cases of the insertion of cohesive gold where the operator drilled pits for his starting-point. Many failures occur of the finest gold fillings which were built on this system, resulting in total death of the pulp. In softer fillings, when they come to the close of the operation, instead of building up cohesive gold on the soft gold, the whole of the proximal cavity is filed away, which not only disfigures the tooth, but, in many instances, leaves a sensitive surface that for many weeks causes the patient great annoyance.—*Dr. D. Genese*.

A Business Man's View of Patents.

DR. W. C. BARRETT, of Buffalo, N. Y., who stands among those at the head of his profession, says in April *Western Dental Journal*:

"The crying need among dental operators is for a motor which shall be sufficient for his needs. It has not yet been found. Electricity does not answer, for this usually implies the keeping in order of a powerful battery, and any one who has tried this knows what a provoking task it is. Water motors are in many cases impracticable, because offices are frequently on upper floors, where the pressure in such places as have a water supply is too often insufficient. A miniature steam engine requires too much watching, and is dangerous when neglected. Gas and hot-air engines have not proved practicable. There is a field here for the exercise of the ingenuity of some of our inventive geniuses. — A full reward awaits the man who solves the problem."

Now, doctor, suppose some one of "our inventive geniuses" makes this important discovery, after months and perhaps years of careful study and experimenting and a considerable expenditure of money, how is he to reap the reward which you say awaits him? If he should happen to be so unfortunate as to be a dentist, in this case you would not allow him to protect himself under cover of a patent; he would not be professional if he accepted the protecting care our government extends to him. He must step down and out of the ranks of the profession and take his place among the mechanics, to reap the reward held out to him by his co-laborers, and for which he has worked so faithfully, while some professional brother, who has not mechanical ability enough to properly sharpen an excavator, looks serenely down on him and his invention, and objects to using or buying it because it is patented. What nonsense! Who is better able to invent a good motor for dental purposes than the dentist, the one who is to use it? The profession is rich in men of superior mechanical genius and skill, and who do they not take hold and invent this article to supply this crying need? Why? Because it would utterly fail to return to the inventor the reward, unless it were patented, and to patent it, would be in the minds of many, unprofessional. Competition, in the way of manufacturing any article of merchandise is so great, that without protection in some way, no one with any business sagacity would undertake it, especially when it means a large expenditure of time and money in the way of tools and machinery made especially for that work, and good for that work only. Then again, that same competition is conducive to cheapness and inferiority in manufacturing, so that in a short time the article becomes so slighted and cheapened as to be almost worthless. To show what effect is produced on inventors by the sentiments expressed against patents by many in the profession, you will often hear a remark like this: "Oh, well, if my invention was for any thing else but dentistry, I might make something out of it."

Gentlemen, you are making a mistake. Instead of frowning down the inventor in your field, you should encourage him. Advance with the rest of the world! From your standpoint to be strictly professional means to stand still.—T. A. L., in *The Western Dental Journal*.

Dr. Ottolengui, New York, exhibited at the Southern Dental Association, albumen placed in tubes, adding various drugs used by the profession in treating root canals in order to demonstrate which are coagulants, and, therefore, not to be used in the treatment of pulpless teeth. The coagulants shown were: spirits of camphor, tincture of iron, iodine, alcohol and hydronaphthol, creosote, tannin and glycerin, iodoform, salicylic acid, wine of opium, tincture of opium, potash, chloride of zinc, listerine, peroxide of hydrogen, aromatic sulphuric acid and tincture of myrrh. The non-coagulants were: liquid vaseline, menthol, oil of turpentine, oil of sassafras, vaseline and menthol, oil of cloves and oil of cassia.

The doctor advised the use of non-coagulants in root canals in place of remedies more commonly in use.—*Southern Journal*.

The Mouth Mirror.

DR. W. A. ROBERTSON, CROOKSTON, MINN.

THERE is probably no single adjunct to the dental office, by means of which so much of the tiresomeness of operating may be relieved, as the mouth mirror; yet it is surprising to find how few operators are able to use it with that freedom, which practice alone can give, in the many positions where it may be employed with marked benefit to patient and operator.

I have seen so many dentists leaning over their patients while at work on the upper teeth, that I am induced to say a few words on this subject with the hope that some one may be benefited and encouraged to employ an easier mode of practice.

To derive the greatest benefit from the mouth mirror, it is necessary to acquire the habit of working by the image, which may easily be accomplished by the exercise of a little practice and perseverance. It is very awkward at first, as everything has to be done in an opposite direction from that reflected in the glass; but the mind soon learns to direct the movement of the hand, so that by practice the facility of operating by the image becomes as easy and natural as the direct vision, and will often be employed in preference where the parts are in a position where either can be used.

When the mirror is used the chair should be lowered and slightly tilted so as to bring the patient's head directly in line with the operator, who is enabled by this to stand erect, a little behind the patient, and thus avoid coming in contact with their person, which is so objectionable, especially to lady patients.

In the preparation of proximal surface cavities in bicusps and molars the use of a right-angled hatchet, with a blade three-fourths of an inch long and one-sixteenth of an inch wide, is exceedingly useful in the preparation of the cervical margin, as the angle of this elevation prevents the hand from interfering with the view; and the length of the blade enables the operator to easily reach as far up (or down) between the teeth as it is necessary to go to secure perfectly sound structure to build against, which at this point is so essential. Aided by the mirror, these cavities in the upper teeth can be prepared with much greater ease and thoroughness than is possible without, and with the further advantage, that it is not necessary for the patient to hold the mouth open so wide.

When it is necessary, in an upper posterior proximal cavity, to cap an exposed pulp, or to make an application to devitalize it, and in the future antiseptic treatment of the canals the use of the mirror is essential, as it is impossible without it to perform these operations skilfully.

In scaling the lingual surfaces of the lower incisors and cuspids it is often difficult, when those teeth incline backward, to do so thoroughly without the aid of the mirror, even tho the patient's mouth is open to its fullest extent; but by its use, when one has acquired the necessary skill, these teeth may be easily cleaned and polished by the image.

The mirror is very useful in detecting proximal cavities when the walls are intact, as the reflected light reveals that peculiar opaqueness of the enamel which is indicative of caries.

In the preparation and filling of buccal cavities in the posterior teeth the mirror is convenient in holding the cheek back out of the way, thus giving a better view of the cavity.

It is also useful in keeping the mouth napkin in position while working on the lower teeth; as by pressing with it on the napkin on the lingual side, it answers the twofold purpose of holding it in place and preventing that unruly member, the tongue, from interfering with the work.

Mirrors are made of many shapes and sizes, but our preference is for one having a diameter of three-fourths of an inch, set in a metal case, bent at an obtuse angle to the handle. It is well to have at least two kinds at hand, one with a plain glass and the other slightly magnifying, as this will be found very useful if you desire to

obtain an enlarged reflection of the cavity; and there are often little points that may be overlooked in the preparation of the cavity by the plain mirror, which will be readily detected by the other.

Some operators recommend the large-sized mouth mirrors, but our experience has been unfavorable, as they occupy too much room and reflect a much larger surface than is necessary.

The smaller glasses reflect little more than the surface that is under observation, and is not nearly so awkward to handle. There are many other uses to which the mirror may be put. I desire to urge strongly the thorough antiseptic cleansing of the mirror after use, as it may readily communicate disease from one mouth to another if this is neglected. I recommend keeping a 1-1000 solution of bichloride of mercury at hand, in which the mirror may be dipt for a few seconds, and then wiped off thoroughly.

How to Take a Correct "Bite," and to Prevent Bad Joints.

G. M. M., in September ITEMS wishes to know how to prevent patients throwing forward the lower jaw in taking an articulation? Here is a *never failing* method for taking a bite, and it also furnishes a rule for giving the proper expression to the mouth, such as fullness of lip, length of teeth, centre of face, etc. Before taking the impressions in plaster, take one in wax, and remove from cup by cooling in water (the object of doing this before taking the impression is to give you a good understanding of the requirements of the impression); place the wax in the mouth again and find where it needs dressing off to give the lips the proper look, and see that it shows just exactly below the lip as you wish the teeth to be seen. By putting some wax on where required, and dressing off in other places, you can see exactly how the expression will be. Now mark the centre of the face, and have the patient bite up several times against the wax, and you will find you can tell exactly where it is correct. Remove the wax and soften it on the surface where the lower teeth struck by passing it through the flame of your lamp, and return to place in the mouth, requiring the patient to again close, watching carefully that they bite in the same place as before and bite into the wax far enough to leave a good impression of the tips of the teeth to articulate with. In articulating put the wax on the model, and fill the wax impression of the lower teeth out even with the fullness of the wax; smooth this carefully, as it is your guide for filling out the face. When plaster is set, take a pair of compasses and measure a distance from the bottom of the wax—that marked the length of the lip—to a line on the plaster above the model, and which attacks it to the articulator. Remove your wax and measure from this line the same as before, and you will find the lengths for your teeth. In setting the teeth on the model be sure to set them full, with the plaster on the lower portion of articulator, as that is the proper fullness.

I have followed this system for years, and *never* have a failure on these points. This plan only takes a few minutes, and there is no trying-in, as the patient can see just how the teeth will look from the wax. If for full upper and lower, proceed with lower as upper, and let the patient close the two together, when they can be marked and taken out. The trouble with patients throwing out the chin, is, in *most* cases, because they close up too far.

While I am writing another that comes to me which, I believe, is *entirely original* with me, and which will be of value to many: How to have clean joints in gum teeth. To make this a success follow closely the plan from beginning to end, as success only can be obtained by it, by doing so. Grind your joint in any way you are accustomed to, and "wax up" carefully, taking pains not to be-smear your blocks on the outside with wax or dirt. Cleanliness is invaluable. After waxing, put the case in cold water, and, after getting cold, trim your wax on the front as nicely as you would your rubber. Invest your case deeply in the flask, bringing your plaster completely up to the top of the wax (rather above than below). *This*

will leave only the blocks above the plaster on the outside. When you separate your flask, you will find you can easily get at the front of the blocks, or rather that portion which your rubber will come in contact with. Mix plaster for your joints *very thin* and plaster the joints, and then go all along the front of the blocks, especially at the joints, and flow the plaster in between the joints and plaster. This makes it utterly impossible for rubber to run down the front of the joints, and it is there that it is always found, as every dentist knows. Cut waste gates at the back of the cast *only—never*, under any circumstances, in the front. Pack in any way your are accustomed to, and warm your flask, screw the front of the flask down first, and force all surplus rubber out at the back. I am *positive* that any one, who will follow the foregoing plan, will have clean joints. Remember, the whole system must be followed, and each step will explain itself, if practised. By forcing the surplus backward, it is not forced *against*, but *away from* the blocks, and does not break them. With plain teeth and pink rubber in front, the red or black rubber of the palate portion is not forced to follow the pink in its escape into the waste gates, leaving that unsightly gum, which we see so often, with a spot of dark rubber at every step where the waste gates were.

I should be pleased to hear from any who have found these suggestions beneficial; and if any dentist finds it necessary to have further light on the subject I shall be pleased to aid him, for I know there are many dentists who have had a world of trouble which the above will rectify, if understood and followed.

St. Louis, Mo.

C. H. DUNNING.

Is it Third Dentation, or a Tardy Development?

EDITOR ITEMS:—The following case may be of interest: Mrs. S., aged forty-two, complained of such soreness of her gums that she could not wear her plate. I laid the gum back at the spot indicated, and, to my surprise, found the cusp of a cuspid. On questioning her, I learned that she had had all her upper (fifteen) teeth extracted in December, 1871, and had a plate inserted in March of the following year, and wore it till a few days ago, when a lump and pain prevented it. I extracted the tooth, and she is now wearing her plate. The tooth was of average size and shape; normal in all particulars, except that there was a deficiency of enamel. I think it is tardy dentation, tho it looks much like third dentation.

East Acron, O.

B. J. HILL.

Why keep the ends of your fingers sore sand-papering rubber plate? Just dress down the proper thickness with files and scrapers; then adjust a large cork on your lathe, and run pumice on it. You can finish much better in half the time.

Boston, Mass.

ERNEST MURRAY, M.D.

[This was our practice for years.—ED. ITEMS.]

Pilocarpin in Dryness of the Tongue.—Extreme dryness of the tongue is, under any circumstances, a very distressing symptom, and one which does not readily yield to treatment while the concomitant cause remains in operation. The sucking of ice or sipping of bland fluids gives but temporary and inadequate relief, and the same may be said of glycerin employed as a paint. In this condition I have successfully used pilocarpin, gr. $\frac{1}{20}$ to gr. $\frac{1}{10}$, in the form of a gelatin lamel, allowed to dissolve on the tongue previously moistened with a sip of water. I find this small dose quickly establishes a moderate flow of saliva, which persists for at least twenty-four hours, and is unaccompanied by excessive perspiration. The altered state of the mouth is often described by the patient as being delightful. I send this note with the hope that others may share the satisfaction I have experienced, if they have not already done so, in this use of pilocarpin. It is scarcely necessary to add that we must exercise caution in the use of so potent a remedy.—*Dr. J. G. Blackman, in British Medical.*

A Portion of the Face Restored Artificially.

L. P. BLAIR, D.D.S.

MRS. T., aged twenty-six, came to me with a very peculiar condition of face. The portion which extends from median line of lips to angle of the mouth and from infraorbital canal to mylo-hyoid ridge, was entirely gone. She desired to know if I could do anything for her.

The history of the case is this: Up to the age of six years she was perfectly healthy; at that time she was taken with typhus-pneumonia. The physician in attendance gave calomel and quinine, forty-six hours after which a blue spot was noticed on the inside of the cheek; the next morning it was visible on the outside of the face, and before night the portion of her face extending from the eye to condyle of jaw along the mylo-hyoid ridge and median line of face developed a line of sluffing, and in a few hours entirely dropt out, exposing the bones. The temporary teeth dropt out, and the motion of jaw ceased and became ankylosed.

The young lady had had two attempts made with plastic operations, both of which were only partially successful. When she applied to me the upper left lateral, cuspid, and two bicuspid teeth had been removed to allow her to eat, drink and articulate. For twenty years she had lived eating through that small aperture.

She wanted to know if something could not be done to hide that ugly gap. I told her I thot it possible. First I took a plaster cast of the face and molded paraffine and wax on it till I had the face as near perfect as I could get it. I then took a cast of the face and obtained my die; I next placed sheet-wax on this and forced it into position, thus getting a skeleton form; then trying it on the face, I found it to be correct. I subsequently made two crowns to fit the lower bicuspid and placed them in position; then two bands to fit on the crowns in the form of spring clasps, leaving an arm from each extending through the wax form. These arms I securely fastened and removed the form with clasps in position. Having now the model I desired, I invested in plaster and proceeded as in plate-work. I rough-finished and sent to artist to be painted. The artificial portion of the face was made of pink and brown rubber painted. I simply filed off the outside, polishing thoroughly the inside.

The result is, the young lady has a false part that so nearly resembles the other side of the face that none but the observing would notice a difference. This fixture obstructed the aperture for feeding; to obviate this difficulty I removed the right centrals, laterals, and cuspids in upper and lower jaw, thus allowing her to eat, drink, and articulate without removing the appliance. She has now been wearing it five months with satisfaction.—*International Dental*.

Magnetized by a Horse.

LAWRENCE FOX, fourteen years old, who lives on the River Road, near Belleville, N. J., has passed through a remarkable experience. The boy's father is employed by Thomas Reilly, a farmer. A short time ago young Fox, while endeavoring to catch one of Reilly's horses in a field, was kicked in the mouth. Five of his teeth were knocked out. The boy started for home, but soon went back to the field and found his lost teeth. While on his way home Fox's upper jaw bled freely. With an idea of stopping the flow he pressed the teeth one after another into the places which they had formerly occupied. When Fox reached home and informed his mother of the mishap, she examined the replaced teeth to see that they were in the right places and advised her son to keep quiet, and possibly the teeth would take root.

The lad followed his mother's advice, and in a few days the teeth had become firm. The boy lived on liquid food. A short time after, he went to the farm again with the intention of helping his father. Young Fox entered the stable and was about to lead out the horse that had kicked him when he was seized with an excruciating pain about the reset teeth. The torture became so fearful that young Fox

threw himself on the ground and rolled in agony. His father ran to his assistance and the lad was led toward home. When he had left the neighborhood of the stable the pain ceased as suddenly as it had come on, and, to the surprise of Mr. Fox, his son wanted to return to the farmyard.

Young Fox could give no explanation of the sudden cessation of pain, and wondered what could have caused the short agony; the father and son returned to the barn. No sooner had the boy got within ten feet of the horse than the pain returned with renewed force, and with a cry of agony he clasped his hands over his mouth and fell to the ground in a spasm. The frightened father, with Mr. Reilly's aid, carried him home. When the doctor arrived the boy seemed well enough.

The next evening young Fox went to the Reilly farm on an errand. He was standing in the doorway of the barn when his father arrived, driving the horse that had kicked him. Before Mr. Fox had alighted from the wagon he heard a piercing scream, and, looking toward the barn, saw his son lying on the ground crying with pain. The boy's cries attracted the farm hands, and he was carried into the house, where, as before, the pain suddenly ceased. The boy was then led out to where the animal was standing. When within a few feet of the horse young Fox again cried out with pain. When led away the pain instantly stopt. This experiment settled the conviction of a mysterious attraction between the boy and horse.

Young Fox had been engaged to help his father on the farm the rest of the summer, and it was decided at home to have all of the lad's replaced teeth taken out. The boy was taken to Newark, and the five teeth were extracted. When he returned home he was at once taken to the stable where the horse is kept. No pain was felt. Young Fox handled the animal without the slightest feeling of soreness about the gums.

This fact further deepened the conviction in the minds of those present, that some strange connection had existed between the boy and the horse.

Impressions of Difficult Cases.

DR. A. G. BENNETT.

I HAVE given much attention to this subject, and have tried almost all of the published methods, as well as several of my own. As we all know, the dovetail *inter-dental* spaces are the points of greatest difficulty. I have lately struck a method by which the most difficult partial impressions are greatly simplified.

I had a very bad case, requiring the two laterals and a bicuspid, all the palatal surfaces being very bulging. I tried several of the usual methods, and failed. The question then occurred to me, why not obliterate these spaces *by the teeth required*? So I first selected the teeth and ground them up, and after drying the adjoining surfaces I waxed them in place with hard wax. I readily took the impression, afterward removing and placing the teeth in their positions. As you will see, this method requires no articulating out of the mouth, simply putting the wax plate in position and flasking the case. This week I took an impression of a very difficult case for the two laterals, the other teeth being much denuded at the necks. I ground up the teeth and simply sprung them into place, no wax being needed, and then very easily took a most perfect impression.

The advantages of this method are obvious. Besides dispensing with articulating and trying in, you can see exactly how the teeth are as to size, shape, and shade, and they cannot move out of place, being securely fixt by the impression.

I would not recommend this method for universal adoption; it is chiefly for difficult cases; and in such I have found not only nothing better, but nothing half so good. It is especially applicable where there are small spaces. Where there are spaces articulating three or four teeth, it is not so good. I have used it with gum teeth and plain teeth, but it is better for the latter. I set them as firmly against the gum as possible. They can be removed afterwards, trimmed a little, and set up still higher by having them a trifle long at first.—*Dental Cosmos*.

Dr. Robert Richter's Glass-Filling Materials.

FROM "BRITISH DENTAL JOURNAL."

MR. E. SIMONIS, of Berlin, sends us a sample of these materials packed in a box, with tweezers, spatula, etc., for manipulating them. The materials consists of various shades of powdered glass, by mixing and fusing which, the exact tone and character of the tooth substance can be obtained. Having prepared the cavity, say with walls on all sides in the labial surface of a central, a little cup, the exact shape of the cavity, is made by pressing in a thin piece of platina foil or of Williams' gold-platina foil, No. 60. This must be carefully pressed to contact with the walls, by means of little pellets of cotton-wool. Having got the cup to fit, the superfluous foil is bent over the edge of the cavity on to the surface of the tooth, so as to form a rim, by which the cup is held in subsequent stages of the work. The color of the tooth is now obtained by blending the various powders; this is then mixt with water to about the consistency of cream: The cup is filled level with the rim, the superfluous moisture dried off with blotting paper, and the mass then fused in the flame of a spirit lamp. If need be the mass is again fused till an even surface is obtained, and to facilitate this the cup can be inverted over the flame without any fear of the mass falling out. Small fissures and cracks in the cup, caused by the splitting of the foil, while it was pressed into place, are not of any consequence. Undercuts are now made in the cavity, and a little oxyphosphate filling precedes the prepared glass plug. If any grinding is required it can be done the following day; this will destroy the polish of the segment, and will necessitate fusing again in order to restore it. There are certain difficulties in making the cup, and those commencing had better select broad, shallow cavities. The foil seems almost always to give in deep, sharp-edged cavities, and it is possible these could be more easily treated by taking a little impression of them in stent and casting this in plaster and pumice. There are other minor points space will not allow us to touch on, but we will put in a few words our impressions of its value as a filling process. We hardly like to attempt to speak authoritatively on so short acquaintance. In the first place the appearance leaves nothing to be desired, and in cavities easily get-at-able and in prominent positions we believe this filling will have a large future. Its durability will depend on the layer of oxyphosphate fixing it in place. This, however, should be but a very fine line, and so should be fairly durable. But at the worst, it will be at least as durable as an ordinary oxyphosphate filling, so that none need be deterred trying it on this ground. As a matter of fact we hear Dr. Richter has some inlays which have been inserted three years and are now quite intact. On the whole we strongly advise all to try it, but to do so on teeth out of the mouth before attempting to fill those in. It is especially indicated in labial cavities of the six anterior teeth.

[It is for sale at our dental depots.—ED. ITEMS.]

At the cervical border I have seen many failures from oxy-phosphate and the amalgam not uniting, or from the gold overlapping the edge. In tin and gold cylinders, too much oxide of tin is deposited, which is so soft that it gives no security against the inroad of fluids destructive to the cavity. Of all the materials, gold is claimed to be the best; it is the best for grinding surfaces, but not for the proximal surfaces, for, unless we get a thorough separation, we cannot see our work from all points. The sensitiveness of the teeth, when operating beyond the cervical border, is often in the way; but if the separation is maintained and allowed to remain for a day or two, a week, or more after insertion of the filling, so as to enable us to inspect our work when the irritation on the gum has passed away, we shall have a separation which will enable us to control all parts of the work on which we operate. After the operation on these proximal surfaces I think we are not justified in sending our patient away as if it was wholly finished, but that we may keep up a separation, we should have the patient visit us again in a day or two, so that we may then inspect the work.—*International Report of Maryland Society.*

How Students "Get Through" Some Colleges.

A CORRESPONDENT of our "Lively Evening Paper" happened to meet a medical student who had repaired to a popular music hall to celebrate his passing the finals by getting drunk and making a noise. A long amusing column of chit-chat is the result. The following paragraph points a lesson:

"You see, when you go up for your clinical they get a lot of cases out of the hospitals—the hardest cases they can think of, and they get 'em there, lying in bed, and try all they can to fog you over there. Well, suppose a chap's at Guy's; he's very likely seen one or two of the cases he's examined about every day in the hospital. Or very likely he's heard about 'em. Why, one chap was being taken in his clinical by old Duckworth—Sir Dyce Duckworth—you know him; and the first case he's taken to he looks at the chap's face and he knows him in a minute. He'd seen the case every day for weeks, and knew a dashed sight more about him than o'd Duckworth did. So he just reels it off like a book, and every question Sir Dyce puts he answers him. So Sir Dyce takes him on to another case in another bed. And as soon as he saw the case he recognized this one just the same. He'd got it all off by heart, and old Duckworth couldn't fog him any road. So they go to another bed, and when the chap looked he thot he was done sure, for it was some strange case they'd got in, and he couldn't make head nor tail of it anyhow. He could see old Duckworth meant doing him this time, so he tries a game on. When Sir Dyce says, 'Well, what's the matter with him?' the chap don't cave in. Not he! He says, as bold as a lion, 'I feel bound to tell you, Sir Dyce.' 'Well?' says Sir Dyce. 'I feel bound to tell you that I've seen that case in hospital!' When he said that it fairly knocked old Sir Dyce off his perch. He says, 'That's very honest, very honest, very honest;' and he goes and signs him through in the first division."

There's many a true word spoken in jest.—*British Journal*.

Dr. Welch:—I have just received the October ITEMS OF INTEREST. I will inform you for your benefit that I permanently closed my business at Cooperstown in April last, after over fifty years constant practice there; and now, at seventy-eight years of age, have commenced a rest for the closing period of my life in this place.

From the knowledge I have of your history in our business intercourse, I know your life has been a busy one, but I think my record must be fully up to yours, as I have scarcely stopt night or day during that period when there was anything to do, till admonished by the weight of years to stop. The last work I did was four full sets of teeth in succession, which placed me in the situation of Collector Erhardt, when he consented to keep open the Custom House till 12 o'clock Saturday night, to allow the New York importers to enter their goods or invoices before the tariff law took effect. You have my best wishes for your prosperity, and that you may be able to stand up to your business as many years as I have done. Yours sincerely,

Garrattsville, N. Y.

E. P. BYRAM.

The Value of Knowledge.—A Brooklyn manufacturer paid a bill without a murmur the other day, simply on account of the way it was worded. His engineer found that the hot-water pump would not work and sent for a machinist. The latter bothered with it half a day and said it must come apart. This meant a stoppage of the factory for a long time. It was suggested that a neighboring engineer be sent for, as he was a sort of genius in the matter of machinery. He came, and after studying the pump awhile he took a hammer and gave three sharp raps over the valve. "I reckon she'll go now," he quietly said, and, putting on steam, "she" did go. "The next day," says the manufacturer, "I received a bill from him for \$25.50. The price amazed me, but when I had examined the items I drew a check at once. The bill read this way: 'Messrs. Blank & Co., Dr. to John Smith: For fixing pump, 50 cents; for knowing how, \$25.' Had he charged me \$25.50 for fixing the pump I should have considered it exorbitant. But fifty cents was reasonable, and I recognize the value of knowledge; so I paid and said nothing."—*Brooklyn Eagle*.

A Treatise on the Irregularities of the Teeth and Their Correction, including, with the author's practice, other current methods. Designed for practitioners and students. Illustrated with nearly 2,000 engravings. In three volumes. By John Nutting Farrar, M.D., D.D.S. New York City.

The space allotted to ordinary book notices seems quite inadequate for a review of the volume at hand. The author has been more than favored in his appreciation of the needs of the dentist in his efforts to place at his service assistance in the most trying department of his specialty. To speak of the volume as a whole, in its general appearance, paper, press-work, etc., would be supererogation, as the book speaks for itself louder than can feeble words, even tho they be in golden letters. The table of contents is so full and so admirably arranged that any one can, in a moment, turn to any desired *subject, condition* or appliance without wasting valuable time where necessity demands prompt information. In the preface we at once get a little insight into the character of the boy who has, in this not exceptional case, proved father to the man. Restless, wiry, persistent, enduring, faithful, conscientious, are attributes impressed on every chapter in the book.

The volume before us is a concise exposition of conclusions derived from a personal experience of nearly a quarter of a century, an experience, too, which has been enriched with more than the ordinary degree of success. The system of correcting irregularities has been reduced by the author to almost an exact science. He has recognized the law governing the physiological functions of the teeth, as well as the physiological functions of the tissues adjacent, not overlooking those structures through which the teeth hold their connection with the nervous and arterial systems, and fully appreciating that, "the better nature is understood the more apparent it becomes, that laws underlie all her actions, and that these laws are all mathematical and mechanical."

In the "preliminary chapter," the reader obtains an idea of the limited amount of old literature upon the subject of "Ancient Methods," of "Methods of Teaching," and of "Professional Progress."

The scope of the work is given in the following language: "The work is divided, for the convenience of the reader, into several parts. The first volume deals with the history and etiology of the subject, the basal principles of regulation, the nomenclature, principles of construction of apparatus, retaining devices, laboratory rules for manufacturing devices, application of force, eruption, antagonism, interdental spaces, correction of irregularities by grinding and by extraction.

"The second volume contains the classification of irregularities and the various methods of treatment for correction; straightening teeth to line; turning and elevating teeth; widening and enlarging the dental arch; correction of protruding teeth; suggestions, practical and theoretical; and lastly, the esthetics of dentistry.

"The third volume is wholly pictorial, being an object index of all mechanisms described in the other volumes. In Vol. 2 the diagrammatic order is governed by the locality and kind of operations; but, in Vol. 3, classification is made according to the principles upon which each mechanism is constructed. For illustration, those that act by springs are in one class, those acting by screws are in another, etc. A bird's-eye view of all enables the operator to quickly select what he desires. The inscriptions under the figures indicate where the mechanisms are explained. In the third volume are, also, several figures of modifications and variations of devices not shown elsewhere in the work."

In Chapters I and II is found a brief history of dentistry, including the development of the art of correcting irregularities of the teeth, of extracting teeth and of filling, from about 3000 B.C., down to that important epoch of the Christian era. These chapters give the reader a good general idea of the germ from which, by long evolutionary process, our profession has grown. Chapter III continues the history from A.D., 100, down to the present century, doing full justice to many who were important factors in the development of dental science.

Chapter IV gives, on its opening page, full evidence of the author's appreciation of the fact that developing structures, whether resulting in abnormal or normal morphological units, are all equally under the influence of laws. Laws underlying variations of structure, which are always subject to the influence of the forces of environment and struggling amid all these antagonisms to produce results which can give the most efficient service with the least labor. The information herein embraced is all every dentist needs to have.

Chapters V and VI treat quite fully and intelligently of the growth of the jaw; its arrest of development; the influence of tooth development; the presence or absence of teeth on this important bone.

Chapter VII evidences mature thought in discussing the power of heredity, and the influence of insanity and idiocy on the teeth. While the question, Can acquired conditions be transmitted? is far from being settled. It is quite patent that, where these conditions give their possessor great advantage in the struggle for existence, the progeny are benefited.

The remaining chapters, VIII and IX, of Part III, continue the subject of heredity, with some pertinent remarks on the influence of the mixture of races on the development of structure, and especially on the maxillary bones. Where this intercrossing is prolonged through many generations of a heterogeneous mixture, it would eventually destroy the tendency to reversion to an original type.

Part IV, embracing Chapters X to XVI inclusive, gives the philosophy of the author's system, and will be considered more practical than the preceding pages. In these are given a number of illustrations with descriptions and applications which would at once attract the attention of the operative dentist, and appeal to his judgment as being mechanically applicable.

There is in the author's philosophy, "First. A recognition of physiological functions as factors in operating.

"Second. The recognition of the benefit derived from the law of labor and rest to the tissues involved.

"Third. Operating the apparatus within the limits of the physiological functions, whether moving teeth by absorption or by bending of the alveolar tissue.

"Fourth. Construction of apparatus in such a manner that force applied can be kept under control of the patient.

"Fifth. That the apparatus constructed so that it will exert force continuously, if properly made and judiciously applied, will, under favorable circumstances, move teeth in accordance with the physiological functions of the tissues, yet apparatus constructed with the view of acting intermittently at will is more scientific, because always capable of exactness of control, holding the ground gained, and also permitting the patient, as well as the operator, to take advantage of the benefit derived from the law of labor and rest."

Part V embraces Chapter XVII on nomenclature.

Part VI embraces sixteen chapters, XVII to XXXIII inclusive, on explanation of principles in construction and application of regulating apparatus. On the pages embraced in these chapters there are two hundred and thirty-four illustrations, representing appliances for almost every conceivable form of irregularity, and all sufficiently well portrayed to be a guide sufficient for the reproduction of the apparatus which each represents.

Part VII embraces four chapters, from XXXIV to XXXVII inclusive. These are on a variety of retaining devices, so essential for holding the teeth when brought into position.

Part VIII contains three chapters on laboratory rules for making regulating devices.

Part IX treats of the philosophy of the application of force. In this the importance of secure anchorage is fully impressed on the reader.

Part X is on the eruption of the teeth—embraced in one chapter, that being the XLV. Names of the teeth—time and order of their appearance, are fully treated.

Part XI. Antagonism of teeth, both theoretical and actual, is considered in two chapters.

Part XII. Connection of teeth by grinding, treated in ten chapters, in which some valuable suggestions are embraced, rendering what might be considered difficult conditions, very simple and readily corrected.

Part XIII, in four chapters, treats of inter-dental spaces, their causes and methods of correcting, and the injuries which may arise from moving teeth before the roots are fully developed.

Part XIV embraces nine chapters, from LXII to LXX inclusive, and treats in these of the extraction of teeth for prevention and correction of irregularities, the necessity of regarding facial expression, the deficiency of teeth, the extraction of the first molar, the esthetic value of teeth, and other practical subjects which render these pages as we reach the close of the first volume not less interesting and valuable than those which have preceded.

C. N. PEIRCE.

Chlora-percha is said to shrink and leak. Experiments have shown that if the material is of a creamy consistency, such as is usually employed in canal filling, the excess of chloroform will escape, leaving the filling porous. To avoid this porosity it should be pumped in with a broach until most of the chloroform has evaporated and it becomes putty-like, adding more of the fresh till the canal is full; some operators then take oxyphosphate of a putty consistency and pack it well down in the canal. It will compact and press to the wall the chlora-percha. Care should be taken not to force anything through the apical foramen which can be avoided by watching the patient.—*Dr. G. E. Linn in Dental Review.*

Dr. Haskell says it is strange so many dentists cling to zinc dies, which are cumbersome, unreliable and difficult to make. I wish I could make dentists comprehend that the making of metal plates is simplified to a remarkable extent by the use of Babbitt metal dies and oiled sand.

As Babbitt metal as sold is usually unreliable, the following formula will enable the dentist to make it for himself: Copper, 1 part; antimony, 2 parts; tin, 8 parts. Melt in the order named; otherwise the tin will oxidize badly. For counter die for above reduce the melting point by using tin with the lead. Make it lead, 5 parts; tin, 1 part.

The Good Qualities of Oxychloride or Oxyphosphate Filling may be numerated as follows: It is a non-conductor; it adheres to the walls of the cavity, therefore excludes moisture; it has a beneficial therapeutical action on tooth tissue with which it is in contact; it is easily introduced and easily adapted to the walls of the cavity, and it is very near the color of the teeth.—*Exchange.*

At the recent examination for the Army Board, of thirty doctors who had been picked out from among the best graduates, and had been especially prepared for the army examination, only two reached the required standard. I believe myself that not twenty per cent of the graduates of medicine in America could pass the State examination required in Germany for license to practice. Humiliating though it be, yet it is true that an American medical diploma has in itself no meaning, and that it will never be a true certificate of technical knowledge and education till it is supplemented by the law.—*Dr. Edmund Noyes in Dental Review.*

I never saw a clean, well-arranged dental office but the dentist himself was neat and particular in his appearance, and also a first-class workman.—*Dr. E. E. Shattuck before Missouri State Society.*

Items with Comments.

DR. W. E. BLAKENEY, NEW YORK.

THIS microbe doctrine forward goes
 Because the doctors will it,
 But when 'tis found, no doctor knows,
 The proper way to kill it.

A Naples doctor claims to have found the "old age microbe," and that it is transmitted by heredity. His name is legion, and he invades the entire human organism, ravaging and destroying until death stops his progress. The doctor proposes to "go for him," first finding the exact spot where he is concealed and then to probe for him, yank him out or squirt hypodermic injections down his throat until he dies with asphyxiation. It is a big job this Naples doctor has undertaken, but, as it is the interest of humanity, he ought to be encouraged. Should the patient survive until the entire operation is finished and the last microbe gives up the ghost, it is believed he will live to a good old age.

The origin and treatment of syphilis is becoming a very live question with many dear old grannies in the profession. These gentlemen have made some wonderful discoveries about the insidious nature of this disease—how it is communicated from one person to another and the way to avoid it. Were it not that these revelations are made by venerable members of the profession and at society meetings we should be tempted to regard them as purely fancy creations. For instance, Dr. William F. Holcombe is reported as saying that "while going to the medical convention at St. Paul I was talking with a gentleman from Columbus, Ga., and he called my attention to a child who was on its knees in another seat, gnawing the back of the car-seat. He said, 'I saw a man sitting down there a little while ago with some evidence of syphilis on the back of his neck;' and he said, 'I believe that time and again persons contract syphilis by putting their heads back on the chairs where other persons having syphilis have reclined.'" Dr. Holcombe believes the "tumbler that the dentist and his patients drink out of may be the means of transmitting syphilis; if a man has a chancre on his lip he may give it to the person who drinks after him." The doctor recites cases which have come under his own observation to prove the soundness of this theory. We quote the following: "A lady came to me fully eighteen years ago who had terrible syphilitic iritis. She belonged to one of the best families. I found that her mother had a similar sore, also her aunt and her grandmother. There was a young man courting one of the daughters, whom he had kissed, and had inoculated the whole family." Here Dr. Kingsley interrupted the speaker with the inquiry: "May I ask what is the moral of that—that a man must not kiss his grandmother?" to which Dr. Holcombe replied: "He must not kiss anybody." Well, this advice may be all right, but if the old lady were good-looking, amiable and rich, and we were a prospective heir to her estate, we should not hesitate to kiss her. But most *old* fellows would prefer the granddaughter on whom to bestow their osculatory performances.

During the reading of a paper by Wilhelm Sachs, D.D.S., of Germany, at the meeting of the American Dental Society of Europe, he exhibited a skull with a full set of natural teeth, prepared by himself and filled with the different materials used in dental practice. If the doctor will present this skull to the committee appointed in 1882 by the Illinois State Dental Society to examine the skulls in the different museums and archeological collections of this country, with the view of learning something of the character of the teeth of the aborigines and the primitive nations, and which, we believe, has made no report yet, he will doubtless confer a great favor on these gentlemen and the society they represent.

Miss Anna Beatty, of Milwaukee, Wisconsin, died recently from an affection that has created the greatest interest among medical men. She had suffered from

catarrh for years. A few days ago a fly got into her throat and was not removed for some time. A physician was called, who found that the woman's throat and upper portion of her mouth were almost eaten away. Examination showed that the affected portions were swarming with insects. They were removed, but the woman was too weak to recuperate and died from exhaustion.

President Foster's address at the Thirtieth Annual Meeting of the American Dental Association embraces a wider range of that on the subjects presented than we are accustomed to see in society papers. The doctor handles the question of State laws for the protection of dentistry in a masterly manner, and defends our colleges from unjust aspersions which have been made about their teachings and usefulness. The doctor is the right man in the right place.

Another Case of Sporadic Cholera is reported in the West—this time from Carrollton, Ohio, September 12th. As we have before suggested, such cases should direct bacteriology toward the ultimate source of the specific quality of the cholera bacillus; and also suggest pathological investigation into the medium of the mysterious relation that seems to exist between epidemic cholera in one hemisphere and sporadic cases in the other.

At a meeting of the First District Dental Society of New York, a communication was received from the Central Society of New Jersey, requesting coöperation in a petition to Congress, asking for a revision of the patent laws, so that hereafter no patents shall be granted on any operation or process when performed on the human mouth. This, we fear, is a step backward.

The Ohio Journal of Dental Science, for September, devotes considerable of its valuable space to an elaboration of different formulas for crown and bridge work. Dr. S. B. Luckie contributes some excellent suggestions on the preparation of roots for crowns, and the true way of setting crowns.

"Courteous, sympathetic and loving deportment on the part of the dentist," says Dr. H. S. Lowry, "gives to the child a feeling of security, and the parent an admiration and respect that will never be forgotten." If the doctor had been inspired he could not have uttered a truer sentiment than this.

"Operations in dentistry," says Dr. W. F. Reh fuss, "can be divided and classified into firstly, surgical; secondly, surgical-mechanical; thirdly, mechanical operations." Will the doctor kindly explain what he means by surgical-mechanical operations?

Dr. E. E. Shattuck, of Kansas City, says that "What most men need is not talent but a purpose; not a power to achieve, but the will to labor." We think purpose without talent would accomplish but little in the way of human progress.

E. B. Hitchcock, M.D., D.M.D., of Newton, Massachusetts, has made a strong showing in favor of gutta-percha as a filling material. Most of the failures, without doubt, in the use of gutta-percha are caused by improper manipulations.

Dr. Charles B. Atkinson says that "the truly educated man will not spend too much of his time up in the clouds." Very wholesome advice, doctor; but we should feel better satisfied if you had told us how much time ought to be devoted to aerial indulgence.

The editorial text in the October number of the *Archives* is "Come up higher." We have been trying to do so for a long time, Brother Palmer, but find the ascent both slow and difficult.

Dr. S. G. Perry, is of the opinion that "there is no workman in the world who should have such delicacy of touch as the dentist;" and the doctor is right.

If all our dental associations were as enterprising as *The Central Dental Association, of Northern New Jersey*, we would have a lively time in the profession.

Tennessee has no dental law.

Dr. Norman W. Kingsley made a ringing speech before the New York Odontological Society at its monthly meeting in May last, in which "Jolain, old-fashioned English," and sparkling logic were the distinguishing characteristics. The doctor gave the American Dental Association some telling raps, and denounced independent, so-called, dental journalism as a delusion and a snare. "Independent of what?" he asked. "Of a company of publishers that are able to publish a thoroughly creditable journal? I tell you, gentlemen," said he, "that what is now doing more to menace the integrity of the dental profession than all else, is not the men who are preparing materials and furnishing goods for dentists' use, but it is the class of men who are trying to attach dentistry to another profession." The doctor evidently don't believe in attaching dentistry to the tail of the medical kite.

Dr. W. X. Sudduth "does not believe there is money enough in the coffers in any of the manufacturing centres of this country to buy the literature of the profession. It is," he says, "not for sale." The only way you can get it, he thinks, "is by the stimulus of personal appeals before dental societies. Hired writers in this country will not succeed." Money will purchase brain labor as easily as it can hand labor; and, we think, there is enough of it in the coffers of one dental manufacturing establishment in this country to secure the literary services of all the capable writers on dental science in the profession.

Dr. Kirk, speaking of dental literature, says: "Now the success of a dental journal does not depend on what is published in it or on how much matter is accumulated for it, but it rather depends largely on how that journal is supported by the profession at large." We think the profession would be exceedingly slow in patronizing a journal conducted on these principles. It is because of the interesting and instructive character of the matter published in the ITEMS that it has secured the liberal support of our professional brethren.

We eat hurriedly, we drink frequently, we take but little exercise, we burn the midnight gas, we smoke, we put every nerve in every section of our body to its extremest tension. We have no let up. We are like the issuing of a daily journal. No sooner is the last sheet printed than the machine is cleaned, oiled and made ready for the next.

"In coming to the city of Baltimore my heart has been filled to overflowing, for I do not forget that this place is the Bethlehem of dentistry; that to Chapin A. Harris we probably owe more than to any other man in the profession."—Dr. G. COCKRELL.

"The proof-reading of but a very few journals is above reproach," says Charles B. Atkinson, D.D.S. We found that out some time ago—but, "What are you going to do about it?"

Dr. Buckley says that he knows of no means of syphilitic inoculation except through an open wound.

Right you are, doctor, and how slowly this fact is conceded by the profession.

A loafer is a two-legged brute with more stomach than head.

Life is so short that a man's stupid who wastes one hour of it.

Advantage is being taken of the Eiffel Tower to obtain high pressure through a manometric tube (the height of the tower) containing mercury. M. Cailliet proposes to utilize the enormous pressure—about 400 atmospheres, so it is said—for his researches on the liquefaction of gases, and interesting results may be looked for—very interesting, no doubt, with a pressure of nearly 6,000 lbs.

There are about one hundred dental societies in the United States, comprising about three thousand five hundred members. And where are the rest of the twelve thousand in the profession?

For Our Patients.

"Can't You Give Her Gasoline?"

EDITOR ITEMS:—A short time ago two colored women came into my office, one of whom seemed to be in the greatest agony. The younger did all the talking, while the one in agony sat in a chair, groaning and rocking. The younger said: "This here lady's got a toothache, and she wants to take something what won't hurt her. She took gas once and it done her harm. Now, couldn't you give her something what won't hurt her? She don't want to take *pure gas*; couldn't you give her *gasoline*?"

I had to laugh as I declined. So out they went to find some one who would give them gasoline.

Here is a little advertisement from a dodger which was handed me. It is from a graduate of a dental college who received his honors in '88. Don't you think he must be quite accomplished?

Dr. ———, Removal. On ——— 1st, will remove to ——— street. Office hours are continuous from 9 A. M. to 6 P. M.

Special and kind attention given to the treatment of children's teeth. Articulation and the lips studied. Malformation and deformities of the face connected. Simple and complex gold fillings. Porcelain crowns affixed, and crowns of teeth restored with gold. Regulating teeth. From one tooth to an entire dentine inserted. Expert treatment to the human teeth. Plates repaired, fractures treated, artificial palates adjusted, fine composite fillings, and the expression of the mouth.

Payment is invariably expected as soon as operations are completed, and in certain cases advance fees will be required. Engagements may be made in person or by mail. Perfect and painless dentistry. Moderate fees.

All the above is by one of those who simply abhor a dentist who stoops so low as to advertise. And yet, I wonder what he calls that little circular of his own?

New Haven, Conn.

E. WILSON.

Cocaine Already Displaced.—The London *Lancet* describes a new local anesthetic which comes from Port Germain, in South Australia, and is described by Dr. John Reid. Drumine, the name of this alkaloid, is prepared from the milky juice of *euphorbia drummondii*, and is claimed to differ from cocaine, inasmuch as it has only a purely sensory paralyzing effect, while cocaine acts both on the sensory and motor nerves. It was injected into the legs of cats, and caused a general dulness, and a marked impairment of all forms of sensibility. The anesthesia was most marked when it was placed on the tongue, nostrils or hand. It has no action on the pupil, and no constitutional effect is produced by small doses internally. In quantities of four minims of a four per cent solution it has been successfully used in sciatica by subcutaneous injections. Experiments with the drug are as yet very imperfect, but a great future is predicted for it in nervous and cerebral diseases.—*N. Y. Med. Times.*

Developing Genius.—Genius unexerted is no more genius than a bushel of acorns in a forest of oaks. There may be epics in men's brains, just as there are oaks in acorns, but the tree and book must come out before we can measure them. We very naturally recall here that class of grumblers and wishers who spend their time in longing to be higher than they are, while they should be employed in advancing themselves. How many men would fain go to bed dunces and wake up Solomons? You reap what you have sown. Those who sow dunce seed, vice seed, laziness seed, usually get a crop. They that sow wind, reap a whirlwind. A man of mere "capacity undeveloped" is only an organized day dream, with a skin on it. A flint and a genius that will not strike fire are no better than wet junkwood.—RALPH WALDO EMERSON.

A Shell in the Nose for Twenty-five Years.—A curious case was reported by Dr. Mayer at the May meeting of the Medico-Chirurgical Society of Montreal. A woman, aged thirty-one, soon after her arrival in Canada from England, suffered from nasal obstruction. On examination, the right nostril was seen to be occluded by swelling of the mucous membrane and the turbinated bones. When a probe was passed for exploration, a foreign body of large proportions was encountered. Cocaine was applied, and after some difficulty, a rhinolith was dislodged and drawn out of the nostril. It measured about three-quarters of an inch, by half an inch in length, and weighed about thirty-eight grains. The patient remembered that when six years old she had introduced a number of small sea-shells into the nostril, but always believed that they had all been removed. The patient's husband, who had been acquainted with her from infancy, authenticated the incident about the shells. The rhinolith was crushed, and then fragments of a pearly nature were easily distinguished. Thus a foreign body had occupied the nasal cavity for twenty-five years without causing trouble.—*British Journal*.

The "Germ Theory" is thus defined by Dr. Wardlaw: Particles of food, mucus, or saliva, wedged between the teeth or hid away in some fissure, or being in some depression, or adhering to some protected surface of a tooth, and not removed by friction, nor dissolved nor washed away by the fluids of the mouth, are taken possession of by bacteria, and fermentation begins; lactic acid, the effete matter of the microbes, is formed, and immediately unites with the lime of the enamel; a slight depression is here made, giving more secure lodgment for additional food, and further fermentation continues. The enamel armor is thus gradually pierced, and the less dense dentine is exposed; ingress is had by the bacteria; they consume the organic elements of the dentine; lactic acid is secreted more abundantly; it presses forward in advance, breaking down the walls of the tubuli; the micrococci follow closely on, crowding in and packing full the tubuli; a secure foothold having been obtained, destruction runs riot; softening and breaking down proceeds in all directions, and we have "caries."—*Inter-National Journal*.

Go Slow.—The following incident, or accident, in office practice rather forcibly illustrates the value of my advice.

Last October, just one year ago, a lady residing in this city visited Cincinnati, and went to one of the many places where, every year, thousands of teeth are sacrificed by the "painless method." She had all her upper teeth extracted. After returning home she had a troublesome cough, which increased. After a day or two she called at my office to inquire if I thought the gas, or "vitalized air," could have been the cause of it. I gave it as my opinion that it could not; but as the weather had been cold and rainy she had taken cold.

Whatever the cause, the cough continued, and the lady became confined to her room and then to her bed. Twenty-four days after the teeth were extracted, in a violent paroxysm of coughing, she threw out, surrounded by blood and pus, the root of a first bicuspid, measuring nine-sixteenths of an inch in length.

Her cough soon began to abate; but she has never fully recovered, and it is not probable that she ever will. Too much care cannot be used when a patient is in an unconscious condition.

D. S. DIBBLE.

Ashland, Ky.

A dentist tried hard to collect a bill, but after many ineffectual efforts said to the debtor: "I do not intend to send you any more bills, and I don't intend to sue you; but there is one thing I want to tell you. Every time you cut off a piece of beefsteak and pass it to your wife I want you to remember that she is not chewing that beef with her teeth, nor with your teeth, but with my teeth." In two or three days he received a check. The motion of those doubly-false teeth in his wife's mouth was too much for him.

A Business Man on Our Fees.

A FEW days ago I was obliged to extract a root of a tooth, and subsequently to give advice because of the patient's neglect, and as the gentleman, one of our thinking and far-seeing men, handed me double the fee I asked him, he remarked: "Let me give you a bit of advice in your own interest, as well as in the interest of the country. *You should double your fees.* Over the lines men who do no better service to their patients, charge two, three and four times your fees. The cost of living, and I suppose the cost of being and practising as a dentist, has largely increased. Servant girls who got \$5 a month, now get \$10 and \$12. Mechanics get double the wages they got twelve years ago. I understand that twenty years ago the dentists in the cities got \$60 for an upper set on gold or platina. Eighteen years ago I paid \$40 for my upper set of vulcanite, made in Toronto. To-day, they say, you give better sets for \$20 and \$25, while some fellows, who must be impostors, pretend to give good ones under \$10! This is all wrong. It is much better to work for one patient who will pay you ten dollars for an operation, than for ten patients who want the same operation for a dollar each. The ten-dollar patient will send you others like himself; but the ten cheap patients may send you others who will try to beat you down to fifty cents. People who can afford to pay the dentist to-day can easier now pay him the double fee than they could pay the single fee ten years ago; and it is a bad sign, in a growing country like Canada, when professional men lower their fees. Of course, there are circumstances when you may have to make reductions; but take my advice, and raise your own fees and urge your brethren to do the same. We, your patients, will, I am sure, get better served. No man works his best unless he sees success and a competence before him."

I was very much struck with the clear, business-like arguments of my patient, and I hope when we have a code of ethics, no man who advertises cheapness as his leading recommendation, will be allowed membership in our societies. Go where you will in Canada, the United States or Great Britain, the "cheap" dentist is without exception, a vulgar, and generally a very filthy quack.

There are now in the United States thirty-three dental colleges, which graduated last year about twelve hundred students. Three thousand six hundred have graduated during the last five years.—*Dominion Dental Journal.*

He Felt the Wrong Eye.

A LONDON dentist called in a physician (an M. R. C. S.) to administer gas to a sensitive patient. The administration was proceeded with, but the moment the forceps grasped the tooth a sudden spasmodic contraction of the muscles of the arm sent the astonished dentist, tooth and all, through the doors of the medicine case, while a like movement of the leg lifted the bracket off its hinges and sent the cuspidor under the washstand. Then the following dialogue ensued:

Patient—"Why in the d—l didn't you give me more gas? How that did hurt!"

Doctor—"I did till you were quite insensible."

Patient—"But I have not been insensible."

Doctor—"According to the usual sign you had reached the stage of deep anesthesia; even your eye, the most sensitive organ in the body, was insensible to pain."

Patient—"Which eye?"

Doctor—"The left."

Patient—"Well, by Joe, here I have been half killed simply because you didn't have sense enough to tell a glass eye from a good one."

The doctor will use another sign next time.—*Southern Journal.*

Doctor—"That's right, my little man. I knew those pills of mine would pull you round. Never knew them to fail yet. What did you put them in—water or bread, eh?"

Little Man (with a grin)—"Put 'em in my pea-shooter."

Editorial.

Disgusting.

A FRIEND of ours, in a neighboring town, sent to a dentist to come and attend to an aching tooth. His clothing was so dilapidated, his hair so disheveled, and his hands and finger nails so dirty, she was ashamed of him. When he advised nothing to be done till the swelling from the abscess subsided, she was glad to get rid of him, for his appearance made her doubt his judgment and skill.

"How could your father say he thot this man a good dentist," said the lady to my daughter, who had been present. "Were you not disgusted with him?"

In two days the pain and swelling had subsided, but in ten days both returned. She was advised to go immediately to the dentist.

"Must I go to that nasty, dirty dentist? It disgusts me to think of it."

"O," said my daughter, "you may find him very different in his office. It is a long way to the city, and it will be but a moment's work to extract the tooth. My father would have taken it out in the first place, for a tooth always comes easier when it is loosened by the inflammation of a forming abscess."

So they concluded to visit the dentist.

It was a dingy, dirty, forbidding-looking place, and the man's appearance was no better than his surroundings.

"Can I let him touch me?" whispered the lady.

"O, it will be but a moment's work, any how," replied her companion. And so she took the dilapidated chair.

"I wonder if his forceps are clean?" she again whispered, as the dentist approached; for he had not put them away after using them for his last patient.

"Can you not put something on the gum, doctor, to make the operation a little less severe?"

"O, yes," he replied; and he sopt on the gum a pungent choaking, burning fluid that almost strangled her. The saliva flowed so freely it ran down on her dress, when my daughter exclaimed:

"Doctor, have you no napkin to put before her?"

Leaving the rag for the patient to hold on the gum, and taking down a dirty towel that must have done duty for a week for very dirty hands, he pinned it tightly round the patient's neck.

By this time, the smell and taste of the medicine began to nausiate, and she was actually vomiting; but the tooth was drawn in the midst of it. The lady cleaned her dress as best she could, paid her bill, and was glad to get out of the office.

Wholeness of Character.

WE pity the person that draws himself up into a single faculty, incapable of seeing anything of interest or profit, but in his one idea and treadmill of life, spectacles colored, judgment warpt, affections ruined, digging for the almighty dollar, indifferent to pleasure, callous to sympathy and deaf to mercy; selfish, isolated, useless. But we glory in the exhibition of wholeness of character, that gives to this dark, miserable world a full, round, beautiful orb of sunshine.

Harmonious development gives correct reasoning, sound judgment, broad views and pure passions, and these qualities shine out in symmetry of form, refinement of enjoyment, and ever varing usefulness and progress. His very presence is elevating, and his unconscious influence is a benediction. Such a man cannot condone evil, yet he will find something valuable everywhere and in every person, and his very touch brings it out. It is said Franklin was somewhat such a man. His equanimity was ce, however, almost overcome. He had to remain with a very incongenial com-

pauion under a tree, for a long time, during a cold rain storm. But he related, afterward, that his experience had proved one of the best hours of his life.

A man of wholeness of character is sure, not only to find diamonds everywhere, and to gather many from unpromising sources, but to so appropriate them that they glisten in his very countenance.

A man of the right physical, mental and spiritual material, is so transparent in his goodness, so illuminated in his wisdom, and so lovable in his character, that he is as a beautiful prism reflecting on all the delicate rays of light, a kaleidoscope transforming common, unattractive objects, and mere useless pieces, into things of beauty, and a lens of marvelous power, ever revealing wonders and glories.

We speak of wholeheartedness, and it is not an unmeaning phrase, for in many the heart is divided and works badly. It is spoken of in the Bible as holiness, a heart made whole by the cementing power of divine love. Christ speaks of it as a heart renovated and cleansed, a pure heart, without spot or wrinkle, one you can look right through, and see nothing but love. Sin defiles and blurs it, and so dishevels and divides and hardens it, that it is illy suited to the purpose for which it was intended. When it is brought out into its normal size and form by renovation, and changed and made vigorous by proper use and new, healthy blood, and illuminated by God's spirit, it becomes the most beautiful living thing of all creation. Through it the good man looks up and sees God; he looks about him and finds it the medium through which God tinges everything with His glory; the world looks through it and sees Heaven; and it glows, and attracts, and warms the world.

Wholeness of character is invaluable for the possessor, as well as for others. He can hardly be awry with himself, for there must be loveliness, enjoyment and contentment where there is harmony, quietness and healthy, vigorous maturity. He lives above the little things that disturb the ordinary man, and he works in an atmosphere of serenity and cheer.

Are we speaking extravagantly? Try it, and see for yourself. The very moment you advance toward it to make it your own, you are filled with an inspiration to proceed; enter it, and you will say the half has never been told. Of course, you will have to throw off evil and take on the good; throw off lethargy and take on energy; throw off every weight and grasp the golden cords let down to raise you into a better sphere; and of course it means faith, and work and struggle; but keep right on and you will get there.

The Past, the Present, and the Future.

WELL, the wheels of time bring us to the close of another year. To the thoughtless, shiftless and unconcerned this is of little moment; but to the thoughtful, earnest and progressive it is an epoch worth recording.

To be successful in the future we must be successful now. Every day we live tells what the future shall be, for each is a stepping stone to that future; therefore it is well to take a reckoning of where and what we are, and whither bound.

In our professional, social and moral standing, in knowledge, wisdom and skill, in finances, comfort and in sources of contentment, progress and happiness, what advances have we made since 1889? With what added stock in these elements of wealth do we enter 1891?

Are not these questions worth pondering? And they cannot be intelligently answered flippantly. Too many men of business wreck their fortunes by shrinking from taking their yearly account of stock. Know the worst, if you have fears; and know assuredly, if you have confidence, and commence the new year wisely, in view of what you find.

What have been the leaks? Most of us have earned a sufficiency to make us comfortable, with a little surplus in bank, if there has been no waste. Overwhelming misfortune may be a benefit; but these little holes in the pocket rob us without benefiting any one. They confuse our accounts, vex our sober moments, and demoralize

our business, our standing and our best laid plans for the future. Keep no "loose change" for "miscellaneous trifles," or "necessaries" you are ashamed to mention on your ledger, but have a definite, worthy use for every cent, and your fortune and your honorable standing are assured.

What have you done with your money, any way? You say you have not been a spendthrift, your "loose change" for trifles has been insignificant, you have no expensive habits; yet where has your money gone? Look at your ledger and see your income, and then at your legitimate expenses, and see the disparity; where is the remainder that should balance the account? That's right, suck your fingers, scratch your head, knead your brow, and *think*—where is it? And how much profit has this waste been to you? How much better you would be off if it were now in the bank?

And have you wasted nothing but money? What of time and golden opportunities? What of down-right laziness, thotlessness and inattention to business? Of the want of studiousness, aggressiveness, and intelligent, laborious, self-sacrificing seeking after the attainable? Of the weights that have held you down, and the cords of bad habits that have handicapped you?

Take an account of these things and find your real standing; then rise in your dignity and assert your freedom from every entanglement—even from the foolish, demoralizing, expensive cigar—and come forth for the race of another year, a *man* in industry, economy, thrift, standing, and bank account.

It is our aim to make the *ITEMS OF INTEREST*, not only a journal of ordinary dental news, but, to a considerable extent, a résumé of dental literature. We invite original matter, and we think our readers are pleased with what we give them,—practical, condensed and varied; but we gather from all sources, selecting the best wherever found. But with all we assume the privilege of presenting it to our readers in the most acceptable form.

Some writers are so clear in style, so correct in language, and so perfect in every quality of composition, that it would be almost sacrilegious to omit or change a single sentence. Others are very diffuse,—intermingling so many side issues, and irrelevant ideas, and using so much verbiage, that their composition is made clearer and more acceptable and useful by eliminating much and condensing the rest. A few writers are too "professional," using phrases and terms that are better interpreted into plain English. Some writers object to our making extracts from their essays: they would have us take the whole or none. But what shall we do where authors are so anxious to exhaust their subject that they exhaust the patience of their readers?—they are forever coming to their main idea, and taking forever to leave it. Sometimes, to cut off both ends leaves more than the whole,—especially for the busy reader. The space in the *ITEMS* is so precious, and the time of our readers is so precious, we try to give "much in little." Life is too short, and business too pressing, to read everything.

Such editing is, of course, much more laborious, and needs much greater discretion, than depending on well-written, elaborate articles; but the steady increase of our subscription list shows that it is appreciated; the *ITEMS OF INTEREST* has now more readers than any other dental journal in the world.

Dr. E. Parmly Brown, of New York, stepped on the toes of the Central Dental Association, of Northern New Jersey, at the American Dental Association. How could he have supposed their toes extended away out West on the borders of civilization? But they did; and it hurt just as much as tho there had been corns on them. So when those toes were draw in, and assembled in Newark the other evening, they came so forcibly against the doctor that the bang kicked him out of the society. Some one, sending us a Newark paper in which the pugilistic account is given, writes on the margin, "What nonsense."

Miscellaneous.

The Amazing Rapidity with which Light Moves.

LIGHT moves with the amazing velocity of 185,000 miles a second, a speed a million times as great as that of a rifle bullet. It would make the circuit of the earth's circumference at the equator seven times in one beat of the pendulum.

For a long time light was thot to be instantaneous, but it is now known to have a measurable velocity. The discovery was first made by means of the eclipses of Jupiter's satellites.

Jupiter, like the earth, casts a shadow, and when his moons pass through it they are eclipsed, just as our moon is eclipsed when passing through the earth's shadow. Jupiter's shadow far surpasses in magnitude that of the earth. His moons revolve around him much more rapidly than our moon revolves around the earth, and their orbits are nearly in the plane of the planet's orbit. Consequently they all, with the exception of the fourth and most distant satellite, pass through the planet's shadow, and are eclipsed at every revolution.

Romer, a Danish astronomer, made in 1675 some curious observations in regard to the times of the occurrences of these eclipses. When Jupiter is nearest the earth the eclipses occur about sixteen minutes earlier than when he is most distant from the earth. The difference in distance between the two points is about 185,000,000 miles, the diameter of the earth's orbit, or twice her distance from the sun.

It takes light, therefore, sixteen minutes to traverse the diameter of the earth's orbit, and half that time to span the distance between the sun and the earth. Light is thus shown to travel 185,000 miles in a second, and to take eight minutes, or, more exactly, 500 seconds, in coming from the sun to the earth.

It follows that we do not see the sun until eight minutes after sunrise, and that we do see him eight minutes after sunset. When we look at a star we do not see the star as it now is, but the star as it was several years ago. It takes light three years to come to us from the nearest star, and were it suddenly blotted from the sky we should see it shining there for three years to come. There are other methods of finding the velocity of light, but the satellites of Jupiter first revealed its progressive movements.—*Peninsula Methodist.*

Why the Compass Points North.

THE compass-needle points north, because practically the earth is a magnet, not differing essentially in its magnetic properties from a bar of magnetized steel, says *American Notes and Queries*.

It has two poles of greatest intensity; and, like most large steel magnets, there are several supplemental poles of lesser intensity. Just as the poles of one bar magnet attracts the end of another, so the magnet poles of the earth behave toward poles of the compass-needle; unlike poles attracting, and like poles repelling each other.

But it is not correct to say that the needle always points north; as a matter of fact, there are but few localities on the earth where it does so, and even those are constantly changing.

An irregular line drawn from the mouth of the Orinoco river through the east coast of Hayti, Charleston, S. C., and Detroit, Mich., represents very nearly the line in which there is no variation at the present.

In all places east of this line, the north end of the needle swings slightly to the westward; and in all places west of it, to the eastward. At the mouth of the Columbia river, the variation of the compass is about 22° east; in Alaska, it is from 40° to 60° east; midway between New York and Liverpool, it is about 35° west.

Of course, there is a reason for this variation, and the explanation is, that the needle does not point to the North Pole, as so many people suppose, but to the *magnetic pole*, which is something entirely different.

The magnetic north pole is at present on or near the northwestern shore of Boothia peninsula, in the northern part of North America. Its position is constantly changing; and in the last six hundred years it has moved about half the distance around the geographical pole.

During a period of three hundred years, in which observations have been carefully made at the Magnetic Observatory in Paris, the variations have changed from 11° 20' east of north, to 22° 10' west.

In the United States, the rate of change in variation differs much in different parts of the country. In Washington State, it changes at the rate of about 7' a year; in Arizona and New Mexico, it is stationary; in the New England States, it is from 1' to 3' per year.

These are mysteries that are yet to be unveiled.—*Golden Days.*

Domestic Uses for Ammonia.

A LITTLE ammonia in tepid water will soften and cleanse the skin. Spirits of ammonia will often relieve a severe headache.

Door plates should be cleansed by rubbing with a cloth wet in ammonia and water.

If the color has been taken out of silks by fruit stains, ammonia will usually restore the color.

To brighten carpets, wipe them with warm water in which has been poured a few drops of ammonia.

One or two tablespoonfuls of ammonia added to a pail of water will clean windows better than soap.

A few drops in a cupful of warm water, applied carefully, will remove spots from paintings and chromos.

Grease spots may be taken out with weak ammonia in water; lay soft white paper over, and iron with a hot iron.

When acid of any kind gets on clothing, spirits of ammonia will kill it. Apply chloroform to restore the color.

Keep nickel, silver ornaments, and mounts bright by rubbing with woolen cloth saturated in spirits of ammonia.

Old brass may be cleaned to look like new by pouring strong ammonia on it, and scrubbing with a scrub brush; rinse in clear water.

A tablespoonful of ammonia in a gallon of warm water will often restore colors in carpets; it will also remove whitewash from them.

Yellow stains left by sewing machine oil, on white, may be removed by rubbing the spot with a cloth wet with ammonia, before washing with soap.

Equal parts of ammonia and turpentine will take paint out of clothing, even if it be hard and dry. Saturate the spot as often as necessary, and wash out in soap suds.

Put a teaspoonful of ammonia in a quart of water, wash your brushes and combs in this, and all grease and dirt will disappear. Rinse, shake, and dry in the sun or by the fire.

If those who perspire freely would use a little ammonia in the water they bathe in every day, it would keep their flesh clean and sweet, doing away with any disagreeable odor.

Flannels and blankets may be soaked in a pail of water containing one tablespoonful of ammonia and a little suds. Rub as little as possible, and they will be white and clean and will not shrink.

One teaspoonful of ammonia to a teacupful of water will clean gold or silver jewelry; a few drops of clear aqua ammonia rubbed on the under side of diamonds will clear them immediately, making them very brilliant.—*Scientific American*.

To Increase the Absorption of Water by Vaseline—V. Krebs (*Journ. d Pharm.*) suggests the addition of castor oil; by adding 2 drops to 1 grm. of the aqueous constituent, a perfectly homogeneous salve is formed with vaseline. It is possible by this means to prepare pomades holding water with vaseline, and permanent and perfect ointments with iodide potash. We are reminded by this of an old trick known to the pharmacist, of adding a few drops of castor oil to essential oils (for instance, oil bay) to facilitate clear solutions with alcohol and water. Try it if you haven't heretofore.—*Pacific Record*.

Antipyrin in Headaches.—I suppose we have all had the satisfaction of seeing headaches melt away as by magic under the influence of this remedy. Out of many score of cases, arising from a variety of causes, in which I have used it, I now recall but four which entirely resisted its influence. In treating facial and supra-orbital neuralgia of a periodical type, I have had good success in many cases by giving O O capsule (about 8 grains) of antipyrin with $\frac{1}{8}$ to $\frac{1}{6}$ grain of morphia when the pain is first felt, repeating in one or two hours if necessary, giving at the same time two or three large doses of quinine each day.—*Dr. H. Redding in Kansas Medical Journal*.

A New Sewage Disinfectant.—What promises to be one of the most useful discoveries of the age, particularly in reference to sanitary science, and one affecting every living being, is that made by Mr. Woolheim, of London, Eng. This is a new method of precipitating sewage, and has been well tested in that country. Amminol gas is the disinfecting power used, and it is said that when it is introduced into sewage it very quickly destroys the microbes of putrefaction and of many diseases; the odor of the sewage is carried away and in less than an hour it is both deodorized and sterilized. Dr. Klein supports the discovery and confirms all the claims made by the discoverer. If the discovery should be thoroughly verified it will practically revolutionize the sewage question.—*Health*.

Wicked Contamination of Water.—A person who should be caught poisoning a well, would answer with his life for any fatal results traced to his act. Large numbers of men combine to poison on the large scale and with wholesale murderous effect the drink of their neighbors, and it is not that of as a crime. So far from that, indeed, that great cities like Newark and Jersey City are, and have been for years, contending in vain to have this murderous work of their up-stream neighbors, not punished, but simply prevented. Professor Austen, who has been making an analysis of the Passaic River water for these cities, placed several corks and some deleterious matter in the river at the point where Passaic City sewers empty. In three hours and fifteen minutes the matter floated down the river to the Newark pumping station. Inasmuch as it requires six hours for the tide to run out, the experiment indicates that Passaic's sewerage floats back and forth for miles past the pumping stations of Newark and Jersey City. Samples will be used as evidence in court.

Jersey City has every opportunity to become a flourishing and prosperous town in spite of her railway nuisance, her heavy debt and the big taxes collected in proportion to the improvements effected within her limits. But before she can begin to grow she must have a decent water supply. Nobody with any sense will come to reside in Jersey City and drink the diluted sewerage of Newark, Passaic, Paterson and other large communities. Pure water must be supplied to the big town across the river, or she will go from bad to worse until grass grows in her busiest thoroughfares.—*Sanitary Plumber*. But the preamble to pure water will have to be purified politics.—*Exchange*.

This year's ice scare should be a lesson to the residents in all large cities. It is a well known fact that even when ice forms plentifully on every piece of water, some of the sources of supply are horribly filthy. What it must be when every pound of the refrigerant is precious may readily be imagined. There is no reason why all cities should not manufacture ice for themselves on a large scale. It can be made, and from distilled or thoroughly purified water at that, and sold at retail for about one-half the price that is now being paid for the impure article, and a good profit paid to the producer and dealer besides.—*Exchange*.

The New Water Works at Denver.—The main point of supply will be in the cañon where the Platte River leaves the mountains, which will form a natural reservoir. The company intend building a short distance north of the mouth of the Platte cañon, the highest dam in the world. The dam will be made of earth. At the base it will be one-quarter of a mile thick, while the height will be two hundred and forty feet. The water will be brought to the reservoir from a distance of twelve miles through a four-foot pipe line of California red-wood, which will be led through tunnels and over gorges, and in some places will be suspended from cliffs at a height of one hundred feet from the ground.—*Exchange*.

A Unique Building.—There is now being erected at Ottumwa, Iowa, a palace of coal, consisting of immense blocks of the bituminous product laid with red mortar, veneered over the solid sheeting of plank. The cost of the building will be between \$28,000 and \$30,000, and it will be two hundred and thirty feet in length, and one hundred and thirty feet in width. The building is two stories in height, the first being about twenty feet to the ceiling, the other varying from forty to sixty feet. In one of the towers is a stage thirty by thirty-six feet, and the main hall with the balconies ascending direct from the stage, will give the building an auditorium with a seating capacity of eight thousand.—*Exchange*.

A Light Without Matches.—To obtain a light instantly, without the use of matches, and without the danger of setting things on fire, is easy. Take an oblong vial of the clearest glass, put into it a piece of phosphorus about the size of a pea; on this pour some pure olive oil heated to the boiling point; the bottle to be filled about one-third full; then cork tightly. To use the light, remove the cork, allow the air to enter, and then recork. The whole empty space in the bottle will then become luminous, and the light obtained will be good. As soon as the light becomes dim its power can be increased by opening the bottle and allowing a fresh supply of air to enter. In very cold weather it is sometimes necessary to heat the vial between the hands to increase the fluidity of the oil, and one bottle will last all winter. This ingenious contrivance may be carried in the pocket; they are used by the watchmen of Paris in all magazines where explosive or inflammable materials are stored.—*Chicago Ledger*.

